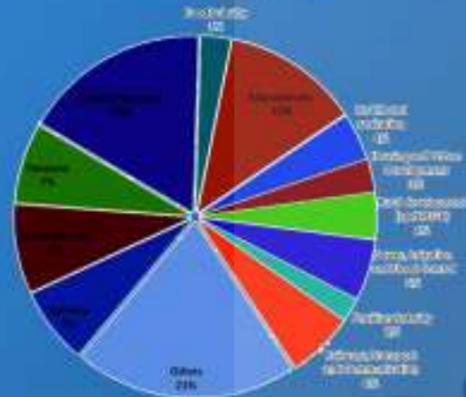


Social Studies CLASS IX



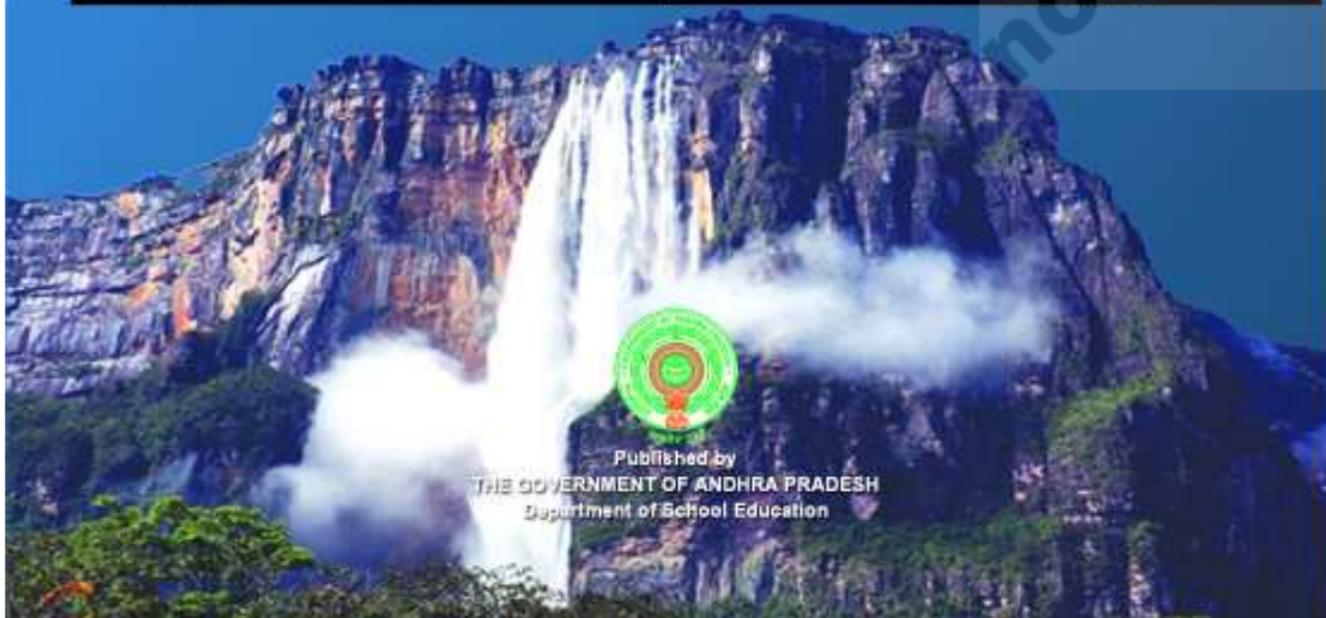
Expenditure of the Government (Andhra Pradesh)



Incentives given by the A.P. Government to the students of Government School: 2 pair of Uniform, Text Books and Mid day meal

Mid day meal details	Rice	Pulses	Vegetables	Oil	Others (Eggs, Banana etc..)
Primary Stage	100 gm	30 gm	75 gm	5 gm	Twice a week
Upper Primary Stage	150 gm	30 gm	75 gm	7.5 gm	Twice a week

School Related complaints Toll Free Number: 1800 4253 525 | Teacher grievances Toll Free Number: 040-23231972,
Child Rights Toll Free Number: 1098 | 040-23231194

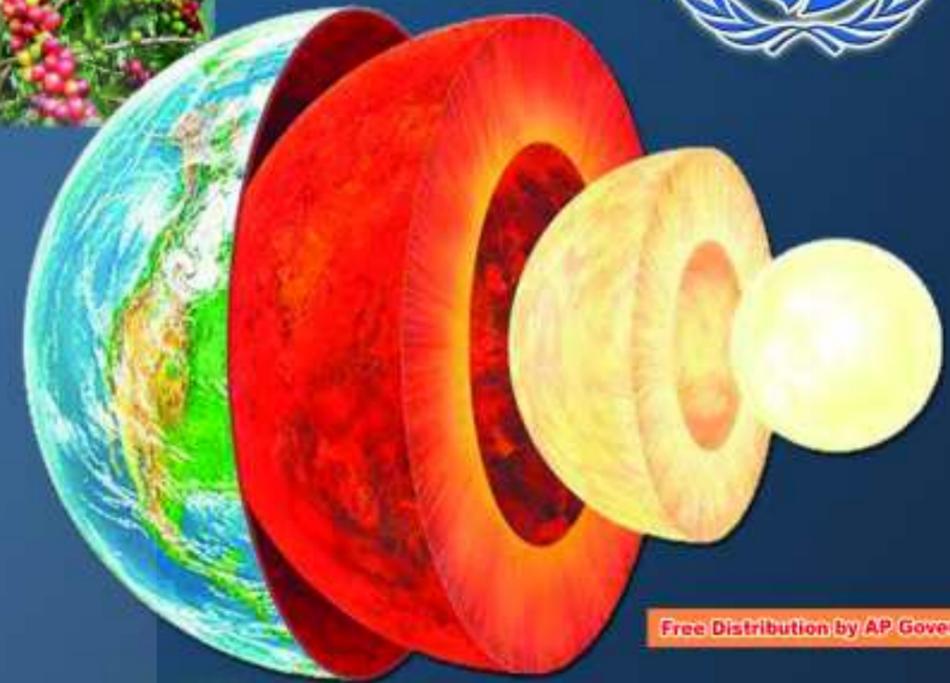


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Social Studies

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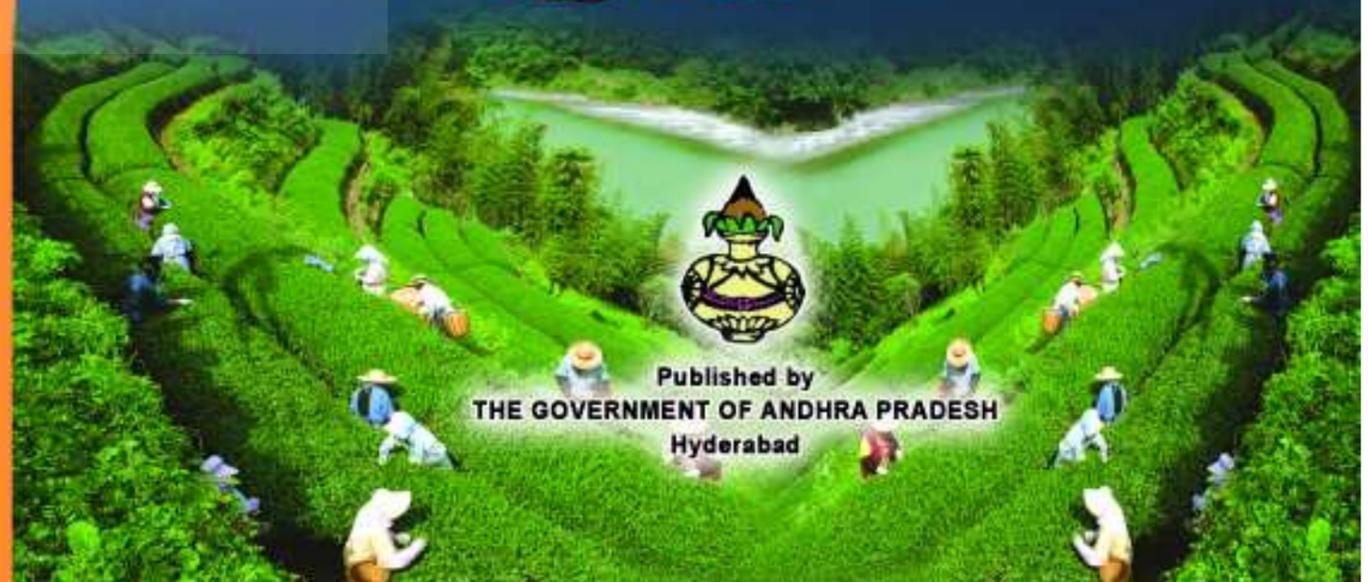
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Social Studies

CLASS IX



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Hyderabad



Our National Flag

The Indian National Flag is the symbol of the land and people of India. Our National Flag is a tricolour panel made up of three rectangular panels or sub-panels of equal widths. The

colour of the top panel is India saffron (*Kesaria*) and that of the bottom is India green. The middle panel is white, bearing at its centre the design of the Ashoka Chakra in navy blue colour with 24 equally spaced spokes. The Ashoka Chakra is visible on both sides of the Flag in the centre of the white panel. The Flag is rectangular in shape with the ratio of the length to the height (width) being 3:2.

Dr. S. Radhakrishnan explained about the National Flag in the Constituent Assembly which adopted it, "Bhagwa or the saffron colour denotes renunciation or disinterestedness. The white in the centre is light, the path of truth to guide our conduct. The green shows our relation to the soil, our relation to the plant life here on which all other life depends. The Ashoka Wheel is the wheel of the law of dharma. Truth or *satya*, dharma or virtue ought to be the controlling principles of those who work under this flag. Again, the wheel denotes motion. There is life in movement. India must move and go forward."

If done properly, there is no restriction on the display of the National Flag by common people, private organizations or educational institutions. Consistent with the dignity and honour of the Flag as detailed in the Code of India, anyone may hoist/display the National Flag on all days and occasions, ceremonial or otherwise.

Where the practice is to fly the Flag on any public building, it must be flown on the building on all days including Sundays and holidays and, except as provided in the Code, it shall be flown from sunrise to sunset irrespective of weather conditions. The Flag may be flown on such a building at night also but this should be only on very special occasions.

The Flag must not be used as a drapery in any form except in State/ Military/ Central Paramilitary Forces funerals. In such cases also the Flag must not be lowered into the grave or burnt in the pyre. The Flag must not be draped over the hood, top, sides or back of a vehicle, train or boat. It must not be used or stored in such a manner as may damage or soil it. When the Flag is in a damaged or soiled condition, it must not be cast aside or disrespectfully disposed of but be destroyed as a whole in private, preferably by burning. The Flag must not be used as a covering for a building. Although the Flag can be used as a costume or uniform, it should not be used as undergarments or below the waist. It must not be embroidered or printed upon cushions, napkins, etc. Lettering of any kind must not be put upon the Flag. It must not be used in any form of advertisement. Showing disrespect or insult to the National Flag is a punishable offence.

The National Flag must not be flown from a single masthead simultaneously with any other flag. There must be separate mastheads for different flags. The flag mast should be in white colour. When a foreign dignitary travels in a car provided by Government, the National Flag is flown on the right side of the car and the Flag of the foreign countries on the left side of the car.

In the event of the death of the President, the Vice-President or the Prime Minister, the National Flag is half-masted throughout the country.

Over the last five decades, several people including members of the armed forces have laid down their lives to keep the tricolour flying in its full glory. We must salute and cherish our National Flag.



RESERVE BANK OF INDIA KNOW YOUR BANKNOTE FEATURES

Security Feature (1)

WATER MARK



The portrait of Mahatma Gandhi, the multi-directional lines and an electrolyte mark showing the denominational numeral appear in this section and can be viewed better when the banknote is held against light.

Security Feature (2)

INTAGLIO PRINTING



The portrait of Mahatma Gandhi, the Reserve Bank seal, guarantee and promise clause, Ashoka Pillar Emblem on the left, RBI Governor's signature on the banknote and the identification mark for the visually impaired persons are printed in intaglio which can be felt by touch.

Security Feature (3)

OPTICALLY VARIABLE INK (OVI)



The colour of the numeral (500 and 1000) appears green when the note is held flat but would change to blue when the note is held at an angle.

Security Feature (7)

MICRO LETTERING



The letters "RBI" and the numeral of the denomination (100/500/1000) can be viewed with the help of a magnifying glass in the zone between the Mahatma Gandhi portrait and the vertical band.

Security Feature (4)

SEE THROUGH REGISTER



The floral design printed both on the front and reverse in the middle of the vertical band next to the watermark window has the denominational numeral (100/500/1000). Half the numeral is printed on the obverse and half on the reverse. Both the printed portions have an accurate back to back registration so that the numeral appears as one when viewed against light.

Security Feature (5)

SECURITY THREAD



3.00 mm wide security thread with inscriptions "Bharat" (in Hindi), and RBI and colour shift from green to blue when viewed from different angles. In the case of ₹ 1000 banknote, the denomination value also appears on the thread. It fluoresces yellow on the reverse and the text will fluoresce on the obverse under ultraviolet light. The thread is visible as a continuous line from behind when held against light.

Security Feature (6)

LATENT IMAGE



The vertical band contains latent image showing the numeral of the denomination (100/500/1000) when the banknote is held horizontally at eye level.

SOCIAL STUDIES

Class IX

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CHAPTER 1

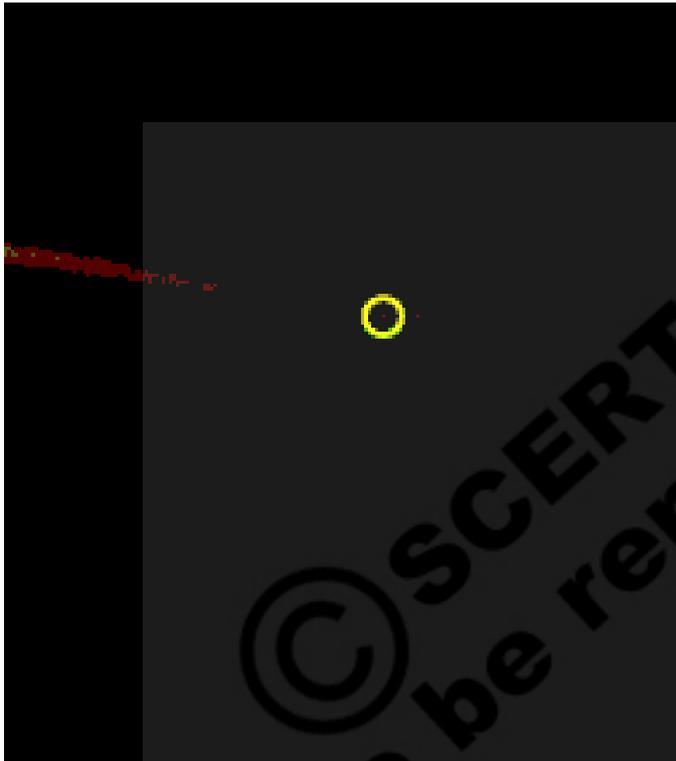


Fig. 1.1: Carl Sagan, a scientist pointed out that all of human history has happened on that tiny pixel shown here inside a yellow circle which is our only home, Earth. This photo taken from the space is known as “Pale Blue Dot”.

We live on this Earth along with millions of other animals, plants and micro-organisms. We human beings arrived on this earth about one lakh years ago. More than any other animal, human beings have been trying to make the Earth a better place to live in. We have been constantly trying to change ourselves and our surroundings. In this process we have entered into conflict with other inhabitants of the Earth and amongst ourselves. But, above all we have tried to understand our earth and our activities so that we can live a better life. For long we have looked at the Earth as a storehouse of resources which we can exploit and use at will. Gradually we are realising the fallacy of this viewpoint. Our reckless exploitation of the Earth has meant the destruction of forests, rivers, hills,

fellow animals and even fellow humans. This has resulted in what many are calling the ‘environmental crises’ like global warming and poisoning of our soils, water and air. Today, more than at any other time we need to build a new understanding of the Earth, how it works and what we do on it and what we do with each other.

In class VI to VIII you had studied about diverse people living in different kinds of lands in different times, how they used the forests, soils, water and minerals of the earth. In the following four chapters we will study about the Earth as a large interconnected system we will see how the rocks, soils, minerals, water, air, sunshine, forests, animals and humans interact with each other and change each other constantly.

Our Universe, the Sun and the Earth

For thousands of years humans have been looking into the sky and trying to understand the objects that shine there –the stars that remain fixed vis a vis each other and the Sun, the Moon and the planets which keep moving across the sky. What are these and in what ways are they related to us? How do they affect us? Many people studied these objects very carefully, noting down all movements and happenings in the sky and tried to figure out what they are and how they move and work. Initially people thought that earth was firm and stationary and all others went round it. Since things have been like this for thousands of years they also thought that the earth, the stars and sun have been like this for ever and will be like this for ever – without any change. About five hundred years ago, scientists came up with a new understanding – that the Earth is not in the middle of everything, that it is actually moving around the Sun and that the sun itself is also moving and that the countless stars in the sky are actually so many suns. During the last hundred or so years people have even figured out that stars are born, they grow old and even die!

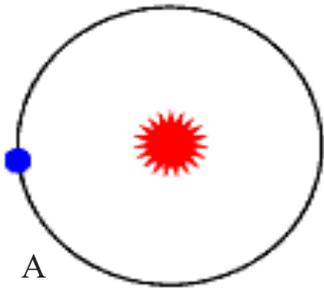
Scientists have figured out that the stars are actually part of larger groups called galaxies and that there are millions of galaxies in the universe. Now they are of the view that the universe itself started some 13.7 billion years ago with a ‘Big Bang’ and that it may end several billion years later.

From this were formed galaxies and within the galaxies were formed stars and around many stars planets formed and went around them. In our lives things move very fast, things change every moment. However, these astronomical changes take place over thousands and even millions of years.

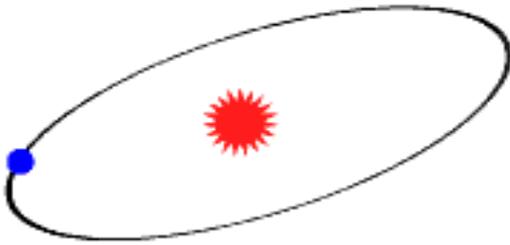
Today human beings are investigating and trying to understand these very distant and complex phenomena! To study all this several spaceships have been sent into the sky, human beings have even landed on the moon. Spaceships have landed on nearby planet - Mars and some have even gone beyond the end of our Solar System.

In short, the Sun and the Earth are a part of a much, much larger universe which is constantly moving and changing! The earth and the life on it are products of these changes and are influenced by them!!

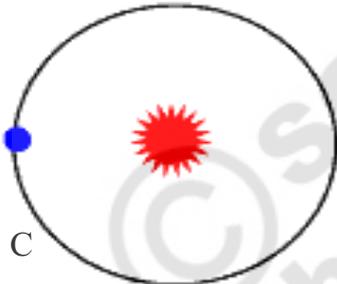
- Why do you think people today are curious to know about the secrets of distant stars and galaxies and the beginning of the universe?
- Initially people thought that the earth was in the centre of the universe and human beings the most important creation. What difference does it make to us to know that we are a small insignificant speck in this vast universe?
- Read about the Solar system and the planets that go around the Sun in Chapter X ‘Stars and the Solar System’ of Class VIII Science textbook for more details.



A



B



C

Fig. 1.2: Earth's orbit

Earth as a Planetary Body

Like all planets in our solar system, the Earth rotates on its own axis and goes around the Sun in a definite orbit. The orbit is the path of the Earth around the Sun. This orbit is on a uniform plane which is called the plane of the orbit. Look these pictures of the Earth, Sun and the orbit. Which one do you think is the correct picture?

A. A circular path

B. An elongated oval path

C. A scaled oval path (Sun in the middle and 1.4 cm on one side and 1.5 cm on the other side)

Actually, the Earth's orbit is nearly circular (as in figure C), and the difference between Earth's farthest point (about 152 million km) from the Sun and its closest point (147 million km) is very small. Earth travels around the sun at a speed of 1,07,200 kilometres per hour! At this speed, it takes $365\frac{1}{4}$ days to complete one revolution. We call this a 'year.' You have studied in class VIII about the energy received by different parts of the Earth from the Sun and how this travel of the Earth around the Sun causes the seasons like winter and summer.

Tick the factors which cause the formation of seasons on the earth:

- Daily rotation of the earth on its axis.
- Monthly movement of the Moon around the Earth.
- Rotation of the Sun on its axis.
- Revolution of the Earth around the Sun.
- Tilt of Earth's axis of rotation to its orbital plane.
- Spherical shape of the Earth.
- Earth's distance from Sun during the annual revolution.

The Word Earth

English word "eorthe" meaning 'ground, soil, dry land.' (Dictionary Online.com)

Indian languages have multiple words for 'earth.' Sanskrit terms include bhoomi, pruthivi, dharani, avani etc. Many Indian languages use variations of these Sanskrit words.

The evolution of the Earth

Scientists are still debating how our Earth was formed. Most scientists are of the view that Earth began to form around four and a half billion years ago. The Earth has reached its present form through several phases. It began as a ball of swirling dust and clouds, and passed through a molten stage. At that time the Earth was very hot and was constantly bombarded by massive rocks and other materials from the space. In this way the size of the Earth grew. The Earth was so hot that it was molten (in hot liquid form). If you boil a thick soup containing many substances you may observe that the heavier particles tend to go to the bottom and lighter particles come to the top. These lighter particles cool at the top and form a layer of crust (like the cream of milk). Similarly, while heavier substances formed the part of the molten core, lighter substances rose to the surface and cooled. Slowly an upper crust of lighter and cooler materials formed covering the molten interior.

As the Earth's interior continued to cool, it contracted and the outer crust wrinkled forming ridges (mountains) and basins (low areas which became oceans later).

The atmosphere of the Earth consisted of different kinds of gases including water vapour. Most of these gases were such that life as we know it today could not have survived on it. It didn't have oxygen which is necessary for us. It took a long time for the air we breath to develop.

The rain filled the great basins on the Earth's crust with water. Thus, the oceans were formed.

For perhaps one half of the long span of Earth's history, the planet Earth remained barren and lifeless. Then life appeared in the oceans. It slowly evolved into diverse plants and animals including human beings over millions of years.

- Do you think the Earth was created suddenly or do you think it was formed by long drawn and complex processes?
- Some people believe that our being on this earth is the result of a series of fortuitous accidents – it is quite possible that there may not have been any life on the earth. Do you agree? Give your reasons.

Internal Structure of the Earth

Let us look at the internal structure of the Earth we live on. We can see the continuity from the early days of the formation of the earth as we try to look deep inside the Earth! It took us years of scientific investigation and analysis of data to form an understanding of the interior of the Earth. The main reason for this is that even the deepest mines we have dug do not go beyond a few kilometres under the surface while the radius or the distance to the centre of the earth is over 6000 kilometres!

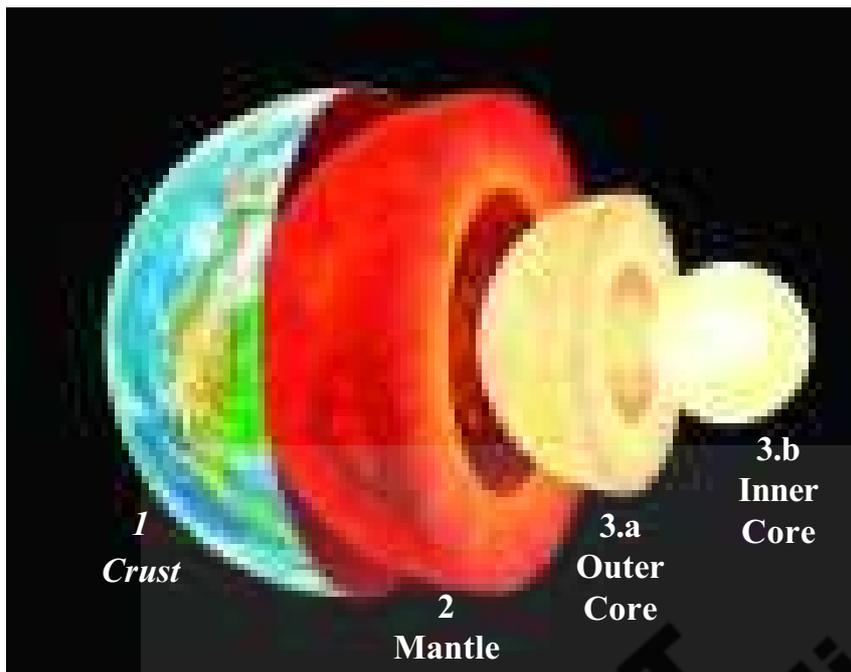


Fig. 1.3: The interior of the earth.

The earth is made up of three main layers

1. **Crust**
2. **Mantle**
3. **Core**

1. Crust: We live on the outer part of the earth which is called the crust. You saw in the last section how this layer was formed. This layer goes up to a depth of 30-100 kms. The crust mostly consists of various kinds of rocks.

2. Mantle: It is 100-2,900 kms in thickness. The upper part of the

mantle is a pliable layer over which the crust floats. This consists mainly of chemicals called silicates.

3. Core: The core is 2,900 to 6376 kms in thickness. It is composed of dense and heavy substances like iron and nickel. It can be divided into two sub layers.

Outer Core: 2,900 to 5,100 kms composed of liquid metallic material like nickel and iron.

Inner Core: The solid inner core (5,100 – 6,376 kms) of the earth is made up of Iron compounds and heavy substances like gold.

Interestingly matter from deep inside the mantle shoots up through volcanoes and fissures on ocean floors and cools down to form the earth's crust. In many regions on the earth part of the earth's crust enters into the mantle and once again becomes molten. This constant process of formation and destruction of the crust explains the fact that our Earth is still very active. The crust on which we live is still

being changed by earthquakes, volcanoes, subduction of land and rise of mountains due to processes happening deep down the earth.

Do you know?

The crust forms only 1% of the volume of the earth, 16% consists of the mantle and 83% makes the core.

The thickness of the crust is just about the thickness of the shell of an egg, if we assume that the size of the earth is equal to the size of an egg!

- We cannot hope to travel to the mantle to study it. But we can study substances from the mantle. Can you tell what these substances would be and how we can get them?

Movements of the Earth's crust

The shapes and positions of the continents may seem fixed at the time-scale of human experience. However, when you look at how old Earth is, continents have moved, collided, merged and then been torn apart again. Mountains have risen and been razed to the ground, oceans have formed and dried up, valleys have been carved, and so on during the course of earth's eventful history.

In the early 20th century, a German meteorologist and geophysicist Alfred Wegener introduced the theory of Continental drift to describe and partially explain the present arrangement of continents and ocean basins. He postulated a massive super continent, which he called Pangaea (Greek for "whole land"), as having existed 220 million years ago and then breaking apart into several large sections. He suggested that these sections moved away from each other. Over millions of years, some continents collided with others. They are still moving around.

Pangaea is a hypothetical continent from which present continents originated by the drift of Mesozoic era to the present. Wegener hypothesised that

Fig. 1.4: Stages of continental drift

the supercontinent of Pangaea broke up to form:

1. Laurentia (present North America, Greenland, and all of Eurasia north of Indian subcontinent) and
2. Gondwana-land (present South America, Africa, Madagascar, India, Arabia, Malaysia, East Indies, Australia and Antarctica).

- Look carefully at the map of the world, do you find some continents looking as if they are two pieces of a jigsaw puzzle? Name those continents.
- In which direction Australia is moving?
- In which direction India is moving?

These two blocks were separated by a long shallow inland sea called the Tethys Sea.

It took millions of years for the continents to reach the present shapes and positions on the globe. Even today many of the continents are moving very slowly, pushing each other – we will read about this in greater detail in the next chapter.

The Earth's Grid System

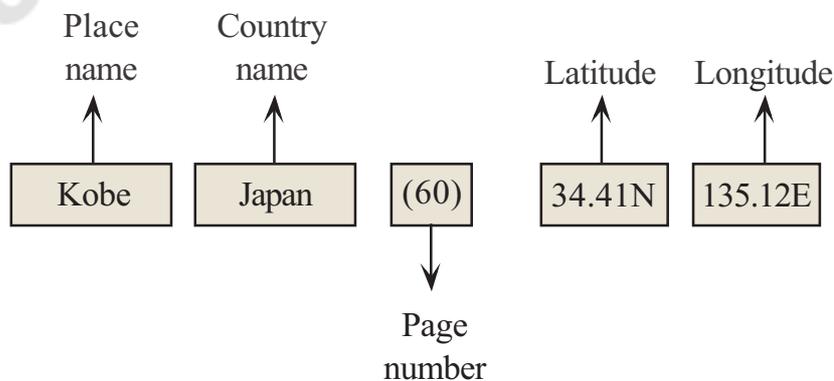
So far we saw the process of the formation of the Earth and its internal structure. Now we will see how it is shown on maps and globes.

Using an atlas to find latitude and longitude of places

You can find the latitude information in a well-produced atlas or online using Google Earth. Here is one example of how to find the latitude and longitude information in the back of the atlas where places are listed alphabetically, similar to the way words are listed in a dictionary.

Example: Find the latitude and longitude information for Kobe.

Find the place name 'Kobe' in the list. Next to that, you will find information about that place. This is a typical atlas listing:

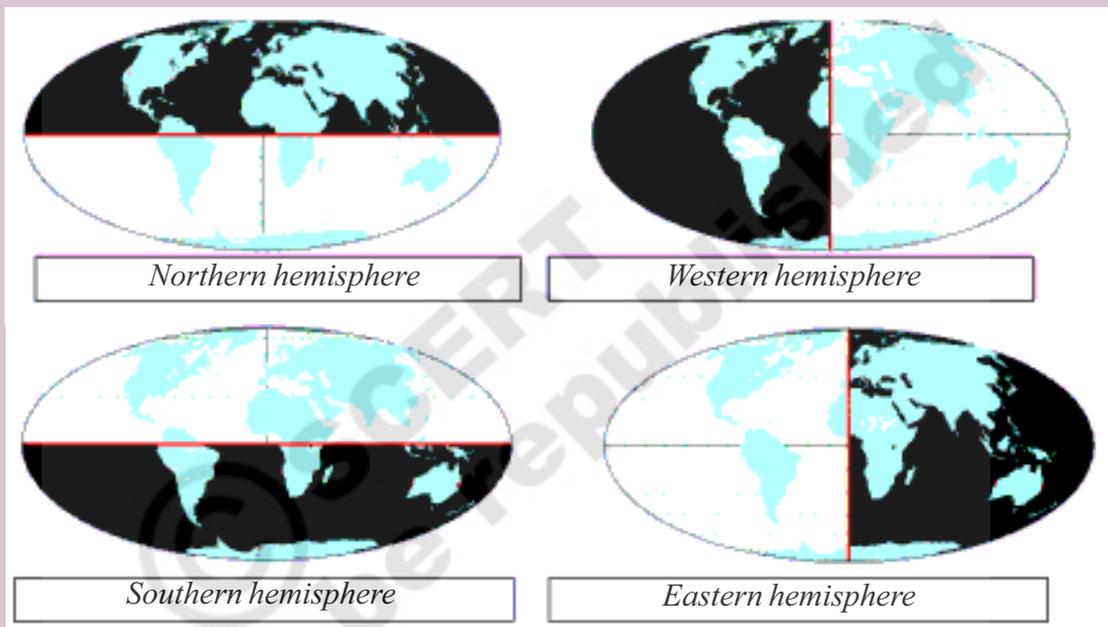


The atlas you use may present the information slightly differently, but these elements will be there.

Now, find the latitude and longitude values for the other places in the list of earthquake-prone places. Locate them on a world map. This will also help you understand the Pacific Ring of Fire and its earthquake-prone places.

On a globe, a network of latitudes and longitudes is drawn. This is called the 'Grid'. With the help of the grid, we can locate places, and learn much about them – how hot or cold it would be there, in which direction should we go to reach it, and what time it would be there at any moment.

- In earlier classes we have studied about hemisphere. Let us revise it in the image below.



With the help of the above maps complete the following table.

Hemisphere	Continents
Northeren hemisphere	
Western hemisphere	
Southern hemisphere	
Eastern hemisphere	

Latitudes

The horizontal circle that goes round the Earth exactly in the middle, at equal distance from the north and south poles is called the 'equator', because it divides earth into (two) equal parts. This is the circle designated as 0° latitude. Following the way angles are designated in geometry, latitudes are expressed in degrees ($^\circ$), minutes ($'$), and seconds ($''$). In many atlases you will not find the minutes and seconds. Look at the fig.1.5.

From the equator, going towards the poles are a series of parallel circles. Each circle

is called a latitude. 'Latitude' comes to us from the Latin word 'latitudo' meaning 'width' – these lines show us the width of the map. Latitude values range from 0° (equator) to 90° North (the North Pole) and 90° South (the South Pole). There is no latitude less than 0° nor greater than 90° . Every latitude must be designated with direction – N for 'north' or S for 'south.' For the equator, there is no north or south designation.



Fig. 1.5: Latitudes

Some latitudes are given special names. These are related to the patterns of sunlight falling on Earth that you would have studied when you learned about the seasons and Earth's revolution around the sun.

Equator is the largest among all the latitudes. All other latitudes on either side gradually become smaller towards poles. At the poles, the 90° N and 90° S are not circles at all! They are just points.

That half of Earth between the equator and north pole is called the northern hemisphere – 'hemi' means half, hemisphere means half a sphere. The half that is between the equator and the south pole is called the southern hemisphere. Counting from one pole to the other, there are 180 main latitudes (not counting the equator).

Longitudes

Latin gives us the word 'longitudo' meaning length, from which we get longitude. Longitudes show us the 'length' or 'height' of a map. Longitudes are not full circles. They are semi-circles connecting pole to pole. Every longitude cuts across every latitude.

The longitude that passes through the astronomical observatory at Greenwich, England is called the 0° meridian, Prime meridian, or Greenwich meridian.

‘Greenwich’, though it is spelled that way, is pronounced GREN-ich, with accent on GREN.

Several countries tried to fix a longitude that passes through their own territory as the 0° longitude. However, England decided that the Greenwich meridian will be the 0° longitude. They ruled a large part of the world at that time. So, everyone else ended up following their system.

There are 360 longitudes. We organize the main longitudes into two groups: 0° to 180° going east which are the east longitudes, and 0° to 180° going west which are the west longitudes. 0° and 180° longitudes do not have direction markers. Other longitudes have direction markers; for example: 28°E for 28° East longitude, 127°W for 127° West longitude, and so on. Each degree of longitude, just like a latitude, can also be divided into minutes (') and seconds (").

The longitude (180°) directly opposite to 0° longitude is called the anti-meridian (anti, means opposite to). The east longitudes form the eastern hemisphere and the west longitudes form the western hemisphere.

After all this, remember: latitudes and longitudes are imaginary lines!

Longitudes and the question of time

It takes 4 minutes for the sun’s position to move 1° of longitude. This means that the time is different for each degree of longitude. Here is an example: When the sun is directly overhead at 10°E longitude, the local time is 12:00 (noon). But it is

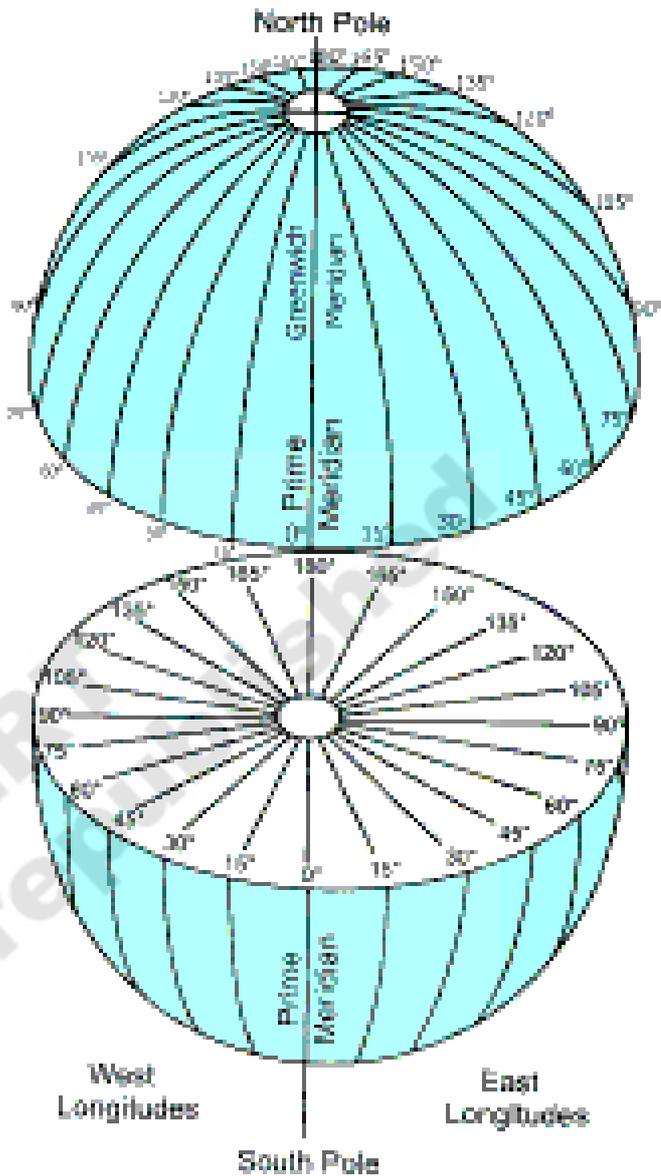


Fig. 1.6: Longitudes

Other names

Latitudes are also called ‘parallels’ because they are parallel to each other! Simple! Longitudes are also called ‘meridians.’ We get meridian from the Latin meridianus meaning noon, that is when the Sun is directly overhead (noon) at a given longitude. So, longitudes are related to time.

11:56 am (ante meridiem) at 9°E and 12:04 pm (post meridiem) at 11°E. Obviously, this can cause a lot of confusion.

Therefore, the world is divided into 24 time zones starting from the Greenwich meridian, going east and west. The width of each time zone is 15° of longitude. This means the difference between one time zone and the next is 1 hour (15° of longitude x 4 minutes per ° longitude = 60 minutes). As you go east from Greenwich meridian, you add time; as you go west of the Greenwich meridian you subtract time.

When it is noon (12:00 in the day) on Monday at 0° longitude, it is midnight (12:00 night) at the opposite longitude (the anti-meridian). Just to the west of 180°, the Tuesday is just beginning, while to its east Monday is just ending.

Time and travel

You know that the earth rotates on its axis. And longitudes are imaginary lines we have made. Hence there is a difference in the time as you travel from east to west or west to east. When you are travelling East to West you gain time of 4 minutes as you cross every longitude. But if you are travelling from west to east you lose 4 minutes as you cross every longitude. These are referred as EGA and WLS (EGA - East Gain Add, WLS - West Lost Subtract).

Notice that if you follow the calculated time zone boundaries, some countries would have more than one time zone with less than one hour division; for example India would have two half-hour time zones. That means, the time between western and eastern parts of India would be different by half hour, with the far-flung northeast even more different. This is considered too complicated to be useful.

In such situations, some countries choose the time along one of the meridians that pass through their territory and follow the time of that meridian for the whole country. This time is called standard time. For India, it is Indian Standard Time (IST), for Pakistan it is Pakistan Standard Time, and so on.

The advantage of this is that in India, for example, wherever you are, it is the same time. In countries which span a large number of longitudes, keeping time is more complex. They may divide their country into more convenient time zones, usually with one hour difference between one time zone and the next.

Do you know?

To avoid confusion of time from place to place 82° 30' Eastern longitude is taken as standard Meridian of India and serves as the Indian Standard Time (IST). The exact difference between Greenwich and IST is 5½ hours.

- Using your atlas, find out how many standard time zones these countries have: USA, Australia, Russia, Japan, Zimbabwe, and Chile.
- Swathi works for a call centre in Hyderabad. Her clients are in the USA. She answers clients' questions about the computer problems. She always works during the night. Why is this? Use geography to find out!

Tease your brain!

When it is 12 noon in Greenwich (0°), what is the local time at:

(a) Mumbai (73° E) (b) Chicago ($87^\circ 30'$ W) (c) Sydney (151° E)

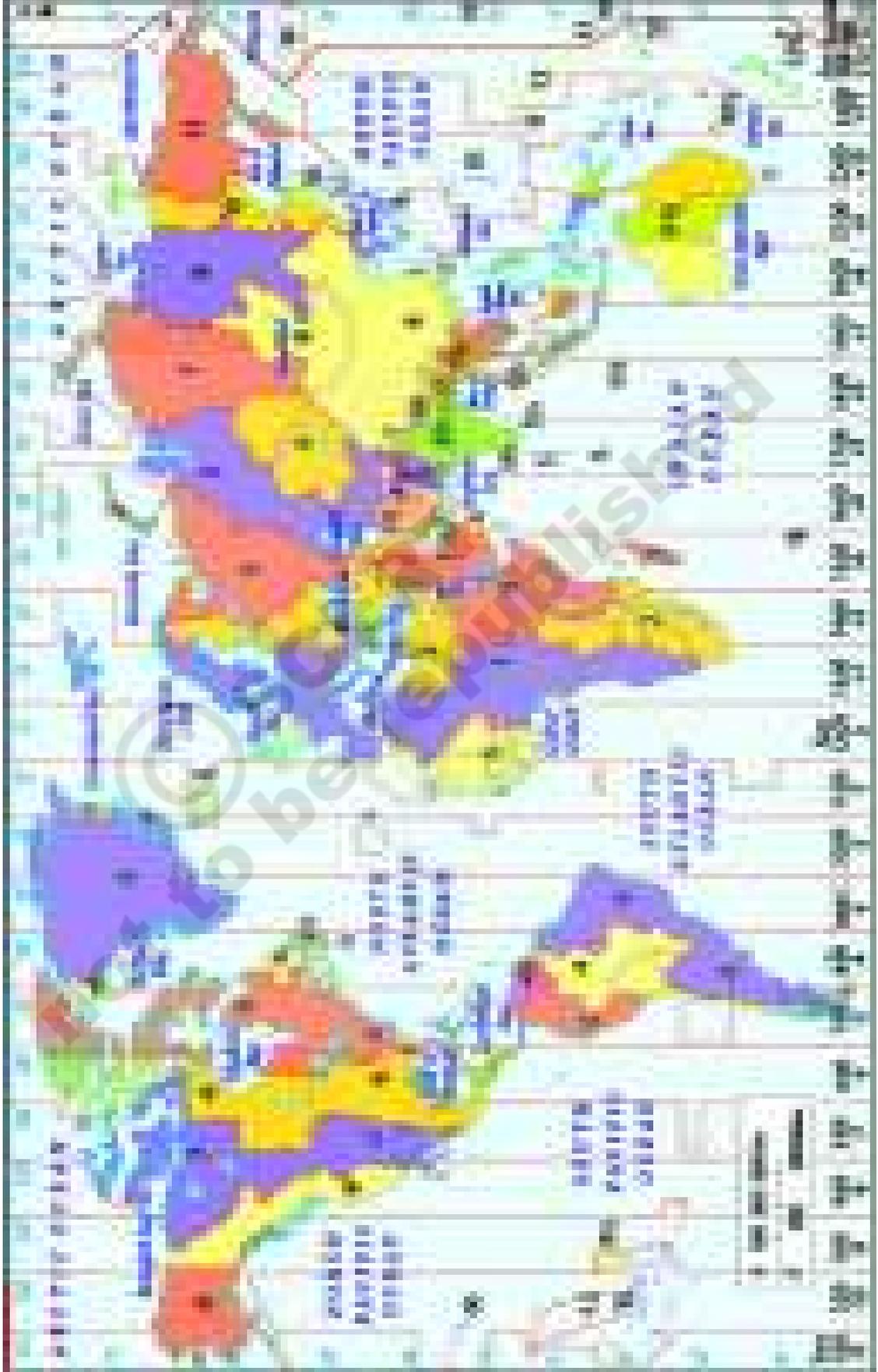
Key words

- | | | |
|-------------------|---------------|-------------------|
| 1. Big bang | 2. Grid | 3. Gondwana |
| 4. Prime meridian | 5. Time zones | 6. Standard time. |

Improve your learning

- Look at the map of India in an Atlas and identify latitude and longitude for the following places:
 Kanyakumari _____ and _____
 Imphal _____ and _____
 Jaisalmer _____ and _____
 Pune _____ and _____
 Patna _____ and _____
- Identify the words that match with Latitude and Longitude (parallel lines, vertical lines, horizontal lines)
- Look at the world map of time zone in the text page 13.
 - If you travel from Vijayawada to Paris to which time zone are you moving? _____
 - If you are travelling from Hyderabad to Tokyo which time zone are you moving? _____.
- Why is it difficult to study the formation of the earth and its structure?
- Read the paragraph under the heading of "Internal structure of the earth" and answer the question.
 How can you say the earth is still very active?
- What is grid and how does it help us?
- Differentiate between a. Local and Standard time b. Equator and Prime meridian
- If every state follows its local time then what problems will rise?
- With the help of your teachers find out the standard meridian of given countries.
 - Nepal
 - Pakistan
 - Bangladesh
 - England
 - Malasiya
 - Japan

World - Time Zones



People who study the Earth – the Earth Scientists – usually talk of four natural realms on the Earth. Realms are areas which have some common features. The earth scientists thus talk of 1. Lithosphere, 2. Hydrosphere, 3. Atmosphere and 4. Biosphere.

You have read much about many of these in the earlier classes but here we will see some broad features of these spheres or realms and how they are interrelated and also how human beings interact with them.

1. Lithosphere: It is the solid crust or the hard top part of the Earth. It is made up of rocks and minerals and covered with a thick layer of soil. (In Greek ‘Litho’ means stone or rock and ‘sphaira’ means sphere or ball.) It is not a smooth surface as you see on the globe, but has high mountains, plateaus or high lands, low plains, deep valleys and very deep basins which are filled with water (oceans). Many of these features are shaped by wind and water. Portions of this crust, in the form of dust etc., are mingled with the air too. When the lithosphere heats due to sunrays or cools down, it influences air and water too. We and most other living beings live on this realm. We use the rocks and soils and other things found in this hard crust, in many ways.

2. Hydrosphere: The realm of water is called Hydrosphere. (It comes from the Greek word ‘hudor’ meaning water.) Some part of the water is found deep down under the earth among rocks (ground water or mineral water). It comprises various sources of water and different types of water bodies like rivers, lakes, seas, oceans etc.

3. Atmosphere: The thin layer of air that surrounds the earth is Atmosphere (It is a combination of two Greek words ‘atmos’ means vapour). It consists of a large number of gases including oxygen, nitrogen, carbon dioxide, water vapour, etc and also dust particles.

- You have read about mining of minerals like baryte or coal. In what ways do you think this affects lithosphere, hydrosphere and atmosphere?
- Human beings consume a lot of medicines like anti biotics to cure sickness. How do you think it affects the lithosphere and hydrosphere and biosphere?
- You may have noticed that many of the ‘scientific’ terms use Greek words. Why do you think they do this? Discuss with your teacher.

4. Biosphere: The realm of life including bacteria which live high on atmosphere or in deep oceans constitutes the Biosphere. (From the Greek word, 'bios' means life.) As you may have noted above, life needs the presence of all the three –realms – land, water and air.

Now you can realise that these 'realms' are very deeply interrelated and influence each other. We will study about the first realm Lithosphere in greater detail. The remaining will be studied in the next chapters.

Lithosphere

What kinds of questions do you think would be answered in this section? Tick them in the list given below:

- How it rains.
- How volcanoes erupt and earthquakes occur.
- Why are there mountains.
- Why are there valleys and gorges along rivers.
- How the winds blow.
- How are deltas formed.

Landforms

Lithosphere deals with the land we live upon. As you saw in the last chapter the crust of the earth is uneven, the very low basins are now filled with oceans and then there are the continents. These are called by geographers as the 'first order' landforms or the primary division of the earth's crust into oceans and continents.

Fill up this empty map of the world by naming the continents and colouring them brown and naming the major oceans and colouring them blue.



Map 1: World Map - Continents and Oceans

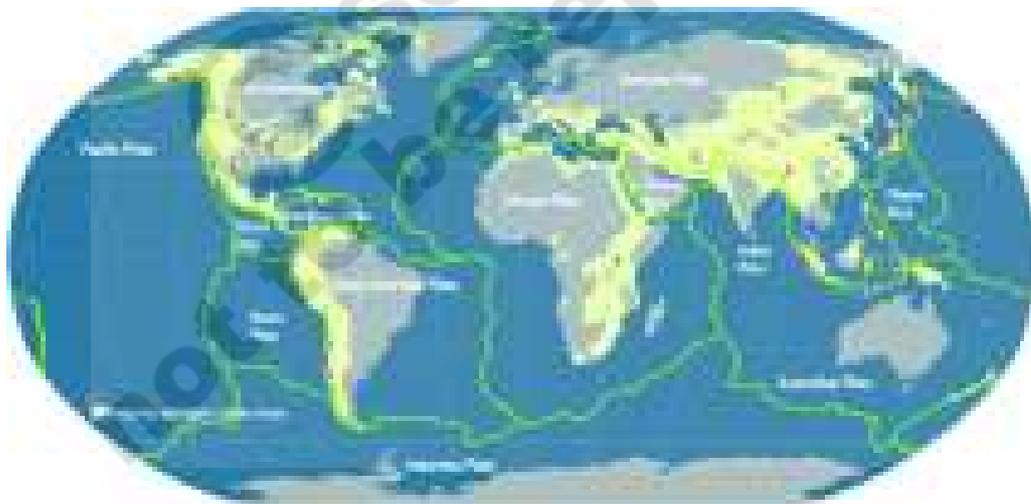
The surface of the continents is not even – they have plain low lands, plateaus and high mountains. These are also in a way a result of the internal processes of the earth as you see below. These landforms like mountains, plains and plateaus are called 'Second Order landforms'.

The Jigsaw Puzzle and the Moving Plates!

In the previous chapter we saw how many continents look like pieces of jigsaw puzzle (Fig. 1.4); how scientists thought that in the beginning, probably all continents were held together and how they broke up and gradually drifted and came to their present places. After years of careful study geologists have concluded that all the continents and even the oceans are actually situated on massive base of rocks called 'plates'. There are about six major plates on the Earth and several minor ones. (The major plates are African, North American, South American, Indo Australian, Antarctic, Eurasian and Pacific Plates. Among the minor plates are the Nazca and Arabian plates). What is special about these 'plates'? These plates actually 'float' on the mantle. They are constantly being pushed and therefore keep moving slowly. They move so slowly that we can't feel the movement. As a result of this movement one plate pushes another neighbouring plate. The region where the two plates meet and push each other, a lot of pressure is exerted by each of them on the other. One plate is pushed under into the mantle while the other plate is pushed up to form a chain of mountains. This movement of plates is called 'plate tectonics'. This process causes earthquakes etc. Now why are these plates being 'pushed'? Who pushes them?

Do you know?

Tectonics comes from the Greek word – 'tekton' meaning carpenter or builder. It is related to the Sanskrit word 'takshan' again meaning carpenter.



Map 2: Map of World plates

Sea floor spreading: Geologists studying the crust under the sea have discovered that under some oceans like the Pacific Ocean there are mid ocean ridges or ranges. These are formed by lava rising up from the mantle. The eruptions on the ridge create new ocean floor made of basalt rocks, which then spreads laterally from the ridge. Thus the mid-ocean ridges contain the newest crust formed on the planet. This fresh crust is being slowly pulled away from the ridge widening the ocean basin. This leads to what is called 'sea-floor spreading'.

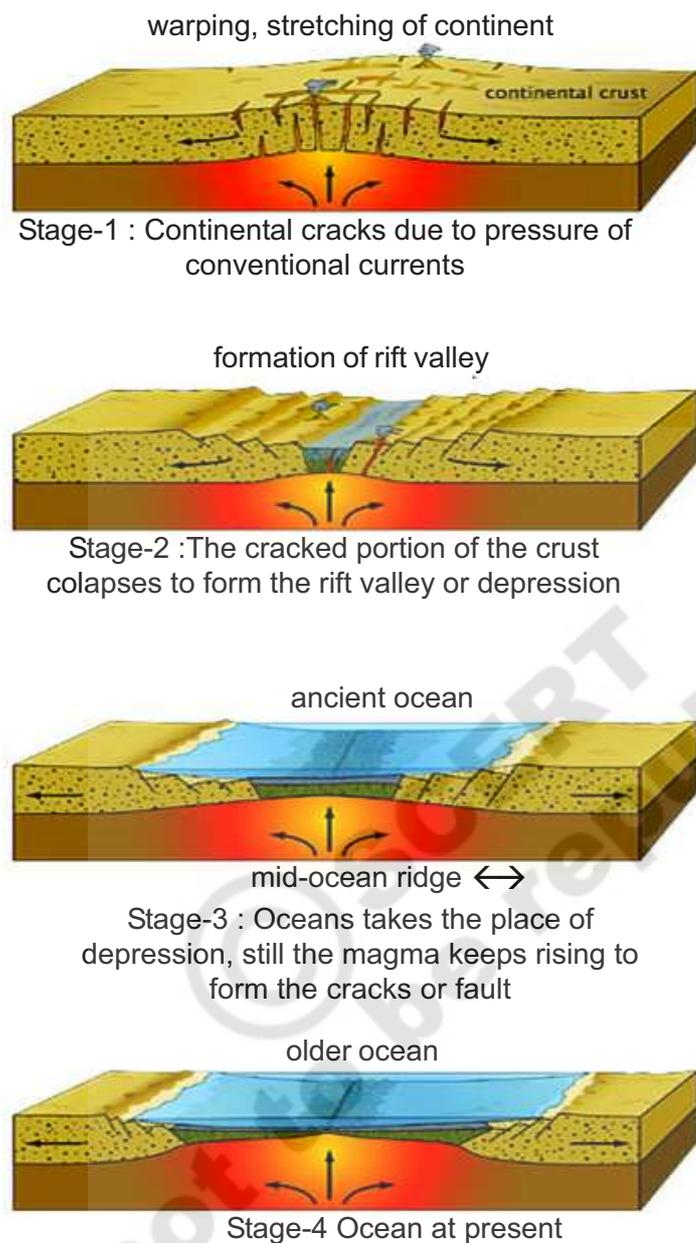


Fig. 2.1: Sea floor spreading

Drama at the margins:

The margins of the plates or the boundaries where the plates meet are the sites of highest geologic activity. We saw how new crust is formed leading to sea-floor spreading along the mid ocean ridges. Similarly in other margins of the plates where one plate meets another, often the incoming plate dips under the stable plate. In fact the incoming plate actually goes into the mantle of the earth and becomes molten due to the heat of the mantle. The plate thus going under into the mantle actually pulls the rest of the plate with it. This in turn pulls the newly formed sea floor near the ocean ridges. For example, the Indian plate (on which the Deccan plateau of south India ‘rides’) pushes the Eurasian plate and goes under it just where the Himalaya mountains are. Just imagine – one day in very distant future the land you are standing upon will go under the Himalayas and join the molten mantle! In fact the Himalaya

- Locate the Himalayas, Andes, and Rockies mountains. Why were they formed in those locations? Suggest reasons.
- Are all rocks on the earth formed in the mid-ocean ridges?
- Geologists have found fossils of sea animals on the Himalayas. Some of these are actually worshipped in many homes as ‘salagramas’. How do you think these fossils are there on the Himalayas?
- Why do you think we don’t feel any of these mighty changes taking place on the earth? Is it because they don’t affect us? Do you think these changes affect us at all?

mountains were formed by this process of the Indian plate pushing into the Eurasian plate (just as if you spread a sheet of cloth on a table and push it from one side it will fold and form mountain like formations). Many of the plate boundaries are also characterised by volcanic eruptions, and earthquakes. They are the most earthquake prone and volcano prone zones.

Slow Movements and Sudden Movements

In the above section we saw two kinds of changes in the Lithosphere - first the very slow movements leading to the formation of the crust, movement of the continental plates and their eventual return to the Mantle. Second, the sudden and dramatic eruption of volcanoes and earthquakes. The sudden movements can be destructive and cause much damage. At the same time they also lead to changes in landforms.

Volcanoes: See the figure of a volcano. Volcanoes are places on the earth's surface where molten material from the mantle erupts on the Earth's surface. This molten material is also accompanied by steam, smoke and various forms of gases from the depths of the earth. The smoke, ash and dust spreads out in the atmosphere while the molten materials cool and form hard rocks called 'Igneous rocks'.

Some part of the lava may not reach the surface and may cool under the surface and become rocks. These are called 'intrusive landforms'. They are usually covered with older rocks and are exposed sometimes due to

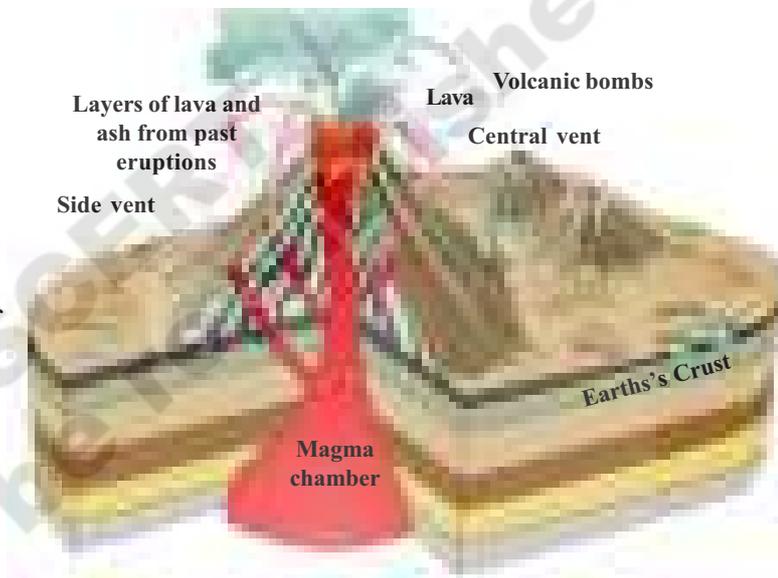


Fig. 2.2: Structure of the Volcano



Fig. 2.3: Stromboli Volcano (most active volcano in the world or light house of The Mediterranean sea)

Important volcanoes in the world

- Stromboli - Sicily**
- Mt Pelee - West Indies**
- Mount Vesuvius - Italy**
- Fujiyama - Japan**
- Cotopaxi - Equador**
- Mayon - Philippines**
- Barren, Narcondam - India**
- Kilimanjaro - Tanzania**

erosion of the covering rocks. A part of the lava which pours on the surface of the earth forms the 'extrusive landforms'. Not all of them come from volcanoes – some of them are poured out of fissures on the earth's surface and spread all around them. Such flows of lava for example occurred many times on the Deccan leading to the formation of the extensive lava plateau.

- Write an imaginary description of damages that occur due to Volcanic eruption in an area.

The Pacific Ring of Fire

For many decades, geologists noted the high number of earthquakes and volcanic activity occurring around the 'Pacific Rim' – the edge of the Pacific Ocean basin. About three quarters of all active volcanoes in the world lie within the Pacific Rim. The theory of plate tectonics provided the explanation for this pattern. Plate boundaries are found all the way around the Pacific basin. It is along these plate boundaries that many volcanoes and earthquakes occur, giving it the name 'The Pacific Ring of Fire.'



Map 3: The Pacific Ring of Fire

External processes

We saw how rocks and mountains rise up due to the internal processes. External forces like water and air are working vigorously to wear away the surface and the interaction of these constructive and destructive forces gives rise to the great diversity of present day landforms. These external processes on one hand wear away the surface of the rocks and mountains, then they transport the worn out particles and deposit them in low lands and basins. The process of wearing away and deposition causes a general leveling of the surface.

This shaping of the landforms by wind and water are called 'Third Order Landforms' by geographers. These land forms include the features like carved mountains, valleys, deltas, sand dunes etc. Processes like weathering, erosion, transportation and deposition are largely responsible for these landforms.

It is known as denudation process. Denudation is a continuous process. The lowlands what we see today were once mountains and plateaus. Landforms continuously keep on changing due to denudation activities. But these changes occur very slowly. The structure of mountains, plateaus and plains keep on changing through process known as erosion cycle or geomorphic cycle.

How air and water transform the surface of the Earth?

Rocks were formed out of molten materials coming from the mantle of the Earth. These rocks over millions of years have been shaped into valleys and plains of loose soil, river valleys cut into mountains and plateaus, etc. Now, how did this happen?

Actually the hard primary rocks are broken into smaller pieces, these smaller pieces are cut off from the parent rock and carried lower down to other places and deposited there. This process is formally defined as follows:

i) Weathering : The gradual disintegration of rocks by atmospheric forces or weather forces. The rocks when exposed to heat expand and contract when cooled down. This happens every day during day and night and through year after year in summer and winter seasons. As surface rock contracts and expands and contracts again, it gradually becomes brittle and begins to break down. Water and moisture in the air also help this process. Water reacts with the chemicals of the rocks and further weakens the rock. These processes by which the rocks are weakened and broken are called 'weathering'. Look at a large cracked rock and you will find that the colour of the internal core of the rock is different from the outer layer – the colour of the outer layer changes due to this process of weathering. You will find it easier to chip small pieces of rock from the outer layer rather than from the core of the rock.

- Why do you think the rock is harder inside than outside?

ii) Erosion: Flowing water and wind have great power and can slowly wear away or cut away the rocks and soil cover in higher places. Water acts in many ways, as rain, river, flowing ground water, sea waves, glaciers etc. Wind too takes many forms like storms, gusts, steady winds, etc. The active wearing away of the earth's surface by these moving agents is called erosion.

iii) Transportation: The eroded material in the form of small rocks, gravel, mud, fine soil etc. carried by winds and water is called transportation. Rivers and winds and even waves cut soil and rocks from one place and take them to distant places – sometimes hundreds of kilometers.

iv) Deposition: When the rivers and winds slow down, they do not have the force to carry the material any more and they dump them. This dumped debris help to form plains and river basins. Much of it is actually transported by rivers to the sea, where layer after layer of these deposits accumulate in the bottom and over time get transformed into 'sedimentary rocks'.

All four aspects of this process are taking place simultaneously in different parts of the world at different rates, depending on the nature of the slope, the structure of the rocks, the local climate and interference by humans.

Work of Water

Can you recount the course of a river from its source to its end – and guess how it will erode, transport and deposit rock materials?

The work of a river begins from its very source, in the high mountains. The flow of a river is very swift as it descends the steep slopes and it exerts a great force in cutting the mountain vertically. As a result a deep valley develops, narrow at the bottom and wide at the top. This is usually called a V shaped valley. In this stage water has such force that it can move even very heavy and hard rocks.



Fig. 2.4: V Shaped valley

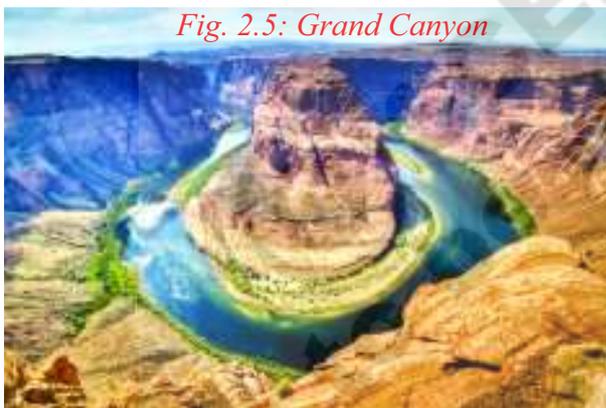


Fig. 2.5: Grand Canyon

Do you know?

Biggest Canyon in the world is on river Colorado. The Grand Canyon is 466 kms in length. Its depth is 1.6 kms and width is 188m to 29km.

- Gorges are suitable for construction of dams – can you tell why this is so?

In some cases where the rocks are very hard, the river cuts a very narrow valley, the sides are so steep that ‘Gorges’ are formed. The Byson gorge in A.P. on the Godavari, Indus Gorge in Kashmir are examples of this. Another important erosion



Fig. 2.6: Angel waterfall

form is Canyon. A Canyon is characterized by steep like side slopes and may be as deep as a gorge. A gorge is almost equal in width at its top as well as its bottom. In contrast a canyon is wider at its top than at the bottom.

The water falls are most numerous in the mountain areas where changes of slope are more abrupt. The water falls with great force and dig out the rock beneath to form a ‘plunge pool’.

As the river enters the plain the slope is gentle and the river also slows down. Now it does not have the force to carry heavy particles and deposits them on its banks or on its bed. Sometimes when the river is in flood it has greater force and cuts the soil (called silt) and when it is not in flood it deposits silt. A layer of silt is thus deposited during each flood gradually building up a fertile flood plain. This is how vast flood plains like the Ganga Plain or the Krishna-Godavari plains were made. When the flood water comes again, the river bed may have become too high as a result of the deposition. Then it changes its course and cuts a new path. This results in the river constantly changing its course in a plain. In its flood plain the river often forms meanders – gentle turns like a snake (See fig. 2.8). Due to deposition along the sides of the meander the ends of meander loop comes closer and closer. In due course of time the meander loop cuts off from the river and forms a cut off lake which is called ox-bow lake.



Fig. 2.7: Formation of flood plain

- Explain how the waterfalls are useful.
- Collect the information about the waterfalls in Andhra Pradesh.
- Collect some of the pictures of waterfalls.

Do you know?

1. Highest waterfall in the world is Angel falls - height is 979 mts, on river Churun, in Venezuela.
2. Second highest waterfall in the world is Tugela falls - height is 947 mts - on river Tugela, in South Africa.
3. Highest waterfall in India is Jog fall (or) Jerosoppa - height is 253 mts - on river Sharavathi, in Karnataka.



Fig. 2.8: Meanders

When a river reaches the sea, the fine material which has not yet dropped is deposited at its mouth forming a delta. The word Delta is originated from the Greek alphabet delta (Δ).

- Compare the action of the river in the mountains and in the plains in what ways are they similar and different. How are the two related to each other?
- Why is a flood plain more suited to human habitation compared to mountains?
- What are the dangers of living on the flood plains?
- Recall the life of people in any hills or flood plain you may have read of.

Work of Glaciers

In very cold regions like the Himalayas or the Alps it snows heavily – they get snow fall instead of rainfall. This snow accumulates and hardens into ice. As it accumulates it flows slowly down till it reaches warm area where the ice melts and a small river starts. This is how the river Ganga is formed from Gangotri Glacier in the Himalayas. Slow moving of mass of ice (a river of ice) is called Glacier. The movement of glacier is very slow unlike water flow. The movement would be a few centimeters a day or even less or more. Glaciers move basically because of the force of gravity.

A glacier erodes through a process called ‘plucking’ in which it lifts pieces of rock and transports them. These pieces of rock and the moving ice together act like a sandpaper on the surface of the rock over which they flow. Just as a sandpaper removes small particles of the wood, the glacier acts as an abrasive and erodes the

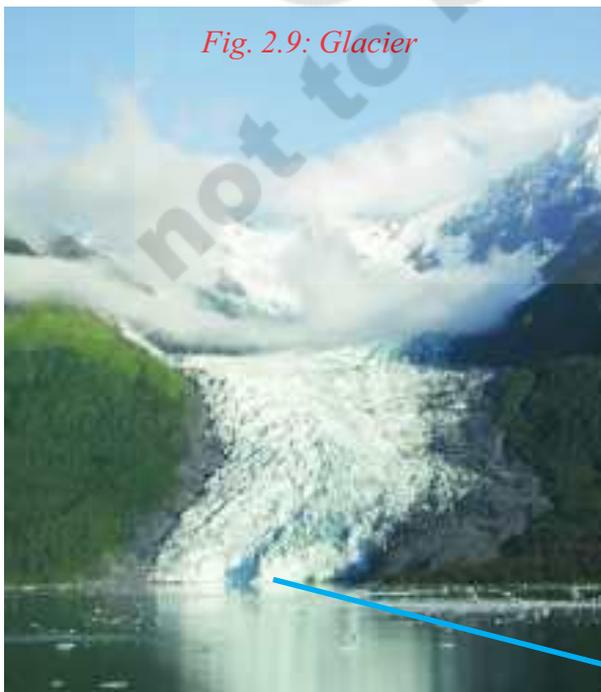


Fig. 2.9: Glacier

bed rock. Through this dual process of plucking and abrasion, glaciers create a U shaped valley.

As the glacier melts and becomes water, it does not have the force to carry the large rocks which it leaves behind in the form of huge rugged boulders. Smaller particles and pebbles are left on the bed of the glacier. The glacier brings with it small pebbles, cobbles, sand etc. All this debris known as till is acquired by the glacier from mountainous slopes, side valley, floors etc. The till which cannot be carried by a glacier is deposited at various parts of the glacier. The deposition of this till is called moraines.

Melting of glacier

Do you know?

The largest delta in the world is Sunderbans. It is formed at the mouths of rivers Ganga and Brahmaputra. The rivers Krishna and Godavari together make two large deltas in Andhra Pradesh. Look for these on a map of India.

Work of waves

The erosion and deposition by the sea waves gives rise to coastal landforms. As sea waves continuously strike at the rocks, cracks develop in them over time. Gradually hollow like caves are formed on the rocks. As these cavities become bigger and bigger only the roof of the caves remain thus forming 'Sea Arches'. Further erosion breaks the roof and only walls are left. These walls like features are called stacks.

The steep rocky coast rising almost vertically above sea water is called Sea cliff. When sea cliffs weather further they form rugged capes and bays. A cape is head land cutting out into the sea. A bay is wide mouthed recess in the line of the coast. The sea waves deposit sediments along the shores forming beaches etc.



Fig. 2.10: Coastal landforms

Work of wind

In the previous section we saw the action of water on the lithosphere. In this section we shall see the action of atmosphere – particularly the winds. Wind is a dominant agent in the hot deserts. About 1/5th of the world's land is made up of deserts. Some are rocky, others are stony whereas others are sandy. Strong winds carry sand and fine soil which strike the large rocks. These too act as abrasive sandpaper and erode the hard rocks. The wind action creates a number of interesting erosional and depositional features in the desert.



Fig. 2.11:
Mushroom rock

Mushroom Rock: Winds erode the lower section of the rocks more than the upper part. Therefore such rocks have narrower bottom and wider top. It looks like mushrooms. So it is called mushroom rocks.



Fig. 2.12: Inselberg

Inselberg: The isolated residual hills rising abruptly from the ground are called inselberg or Island Mountain. They are characterised by their very steep slopes and rather rounded tops

Sand Dunes: Due to weathering and persistent wind action, there is a large accumulation of fine sand in many deserts. These form 'sand dunes'. These are unstable hills of sand which move with strong winds. They form a number of shapes as they move and settle down.

The fine dust blown beyond the desert limit is deposited on neighbouring lands. Usually this is yellow in colour and is very fertile. This soil is called 'Loess'. Loess is in fact fine loam, rich in lime, very coherent and extremely porous. The plains formed by the deposition of loess are called Loess Plains.



Fig. 2.13: Various types of sand dunes in Sahara desert

- Compare the Loess Plains with Delta. What similarities and differences do you see between them?

Action of Vegetation and Human beings

In this section we shall briefly examine the impact of biosphere on Lithosphere. In what ways do you think vegetation – trees, plants and grass affect rocks? They contribute to the weathering of rocks by driving roots into fine cracks or holes in the rocks. They also enable water and moisture to enter into the rocks which further enable weathering. On the other hand the plant or grass cover on soils prevent easy denudation or transportation of soil by wind or water.

- Can you discuss in the class how the following human actions impact the lithosphere?
 - i. Mining
 - ii. Building cities with bricks and cement
 - iii. Agriculture
 - iv. Dams

Human beings especially after the Industrial Revolution have had a major role in transforming the crust on which we live.

Hydrosphere

It has been raining for thousands of years. Did you ever doubt why the water in seas and oceans never dried up? Less than 1% of water that reaches the earth is useful to human beings. Can this water meet the necessities of all living beings? To know the answers to all these questions let us read about the Hydrological cycle.

Hydrological Cycle

Water is a cyclic renewable resource. It can be used and reused. Water undergoes a cycle from oceans to land and then from land to the oceans. The water cycle has been working for billions of years and all the life on earth depends on it.

Hydrological cycle is the circulation of water in different forms i.e., the liquid, solid and the gaseous phases. It also refers to the continuous exchange of water between the oceans, atmosphere, land surface, sub surface and all organisms.

The hydrological cycle sometimes is expressed mathematically as

$$RF = RO + ET$$

Where RF (Rain Fall) includes all types of precipitation, RO is run off, ET is Evapo transpiration.

There are six stages of water cycle.

- Evaporation
- Transportation
- Condensation
- Precipitation
- Runoff
- Groundwater

Evaporation: Water is transferred from the surface to the atmosphere through evaporation, the process by which water changes from a liquid to a gas. The sun's heat provides energy to evaporate water from the earth's surface. Land, lakes, rivers and oceans send up a steady stream of water vapour. Plants also lose water to the air through transpiration.

Transportation: The movement of water through the atmosphere specifically from over the ocean to over land, in the form of clouds. Clouds are propelled from one place to another by either upper air circulation, surface-based circulations like land and sea breezes or other mechanisms.

Condensation: The transported water vapour eventually condenses, forming tiny droplets and clouds.

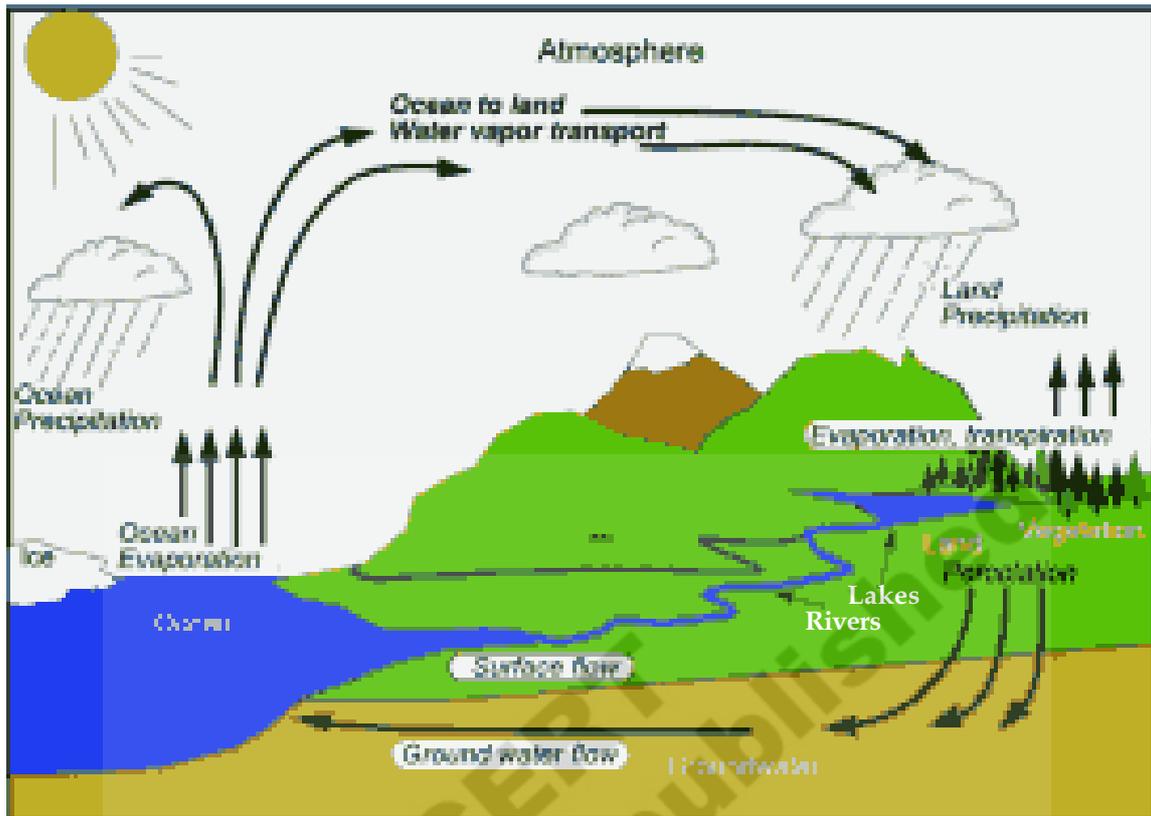


Fig. 3.1: Hydrological cycle

Precipitation: The primary mechanism for transporting water from the atmosphere to the surface of the earth is precipitation. When the clouds meet cool air over land, precipitation in the form of rain, sleet or snow, is triggered and water returns to the land (or sea).

Run off: Most of the water which returns to land flows down hills as run off. Some of it penetrates and charges groundwater while the rest, as river flow, returns to the oceans where it evaporates.

Groundwater: Under special circumstances, groundwater can even flow upward in artesian wells. The flow of groundwater is much slower than runoff.

The hydrological cycle is not a simple circulation of water between ocean, atmosphere and the land. There are a number of sub-cycles operating within it.

Water Sources

97.25% of water is saline ocean waters and only 2.75% is fresh water. The greatest portion of the fresh water (68.7%) is in the

Reservoir	Percentage of the Total
Oceans	97.25 %
Icecaps and glaciers	2.05 %
Groundwater	0.68 %
Lakes	0.01 %
Soil moisture	0.005 %
Atmosphere	0.001 %
Rivers	0.0001 %
Biosphere	0.00004 %

form of ice and permanent snow cover in the Antarctica, the Arctic and in the mountain regions, 29.9% exists as fresh ground waters. Only 0.26% of the total amount of fresh water on the earth is concentrated in lakes, reservoirs and river system, where it is most easily accessible for our economic needs and absolutely vital for water ecosystems.

Oceans

Continents and oceans are the first order relief features of the earth. The huge water bodies are called oceans. The geographers have divided the oceanic part of the earth into five oceans namely The Pacific Ocean, The Atlantic Ocean, The Indian Ocean, The Southern Ocean (Antarctic Ocean), and The Arctic Ocean.

The word 'sea' is often used interchangeably with 'ocean', but strictly speaking a sea is a body of saline water, partly or fully enclosed by land.

The major oceanic divisions are defined in part by the continents, various archipelagoes and other criteria. See the table below for more information; note that the table is descending order in terms of size.

Rank	Ocean	Notes
1	The Pacific ocean	Separates Asia and Oceania (Australia, New Zealand, Papua New Guinea together) from the Americas.
2	The Atlantic ocean	Separates the America from Europe and Africa.
3	The Indian ocean	Washes upon Southern Asia and separates Africa and Australia.
4	The Antarctic ocean (Southern ocean)	Sometimes considered an extension of the Pacific, Atlantic and Indian oceans which encircles Australia.
5	The Arctic ocean	Sometimes considered a sea of the Atlantic, which covers much of the Arctic and washes upon North America and Eurasia.

Do You Know?

Millions of years ago oceans were combined together? The single super ocean was known as 'panthalsa'.

Formal oceanographic investigation began only with the British expedition of Challenger, the first successful world wide deep-sea expedition.

Relief of the Ocean

The ocean basins are in many ways similar to the land surface. There are submarine ridges, plateaus, canyons and terraces found within oceans. Ocean floor is divided into four parts.

1) Continental Shelf: The continental shelf with depth up to 200 mts occupies about 7.6% of the ocean area. It is the border zone between land and sea. The largest continental shelf is Siberian shelf in the Arctic Ocean, stretching to 1,500 kms in width.

Continental Shelf is important because:

- Fish wealth is more in this region.
- Rock petroleum, natural gas are found here.
- Building seaport is possible here.

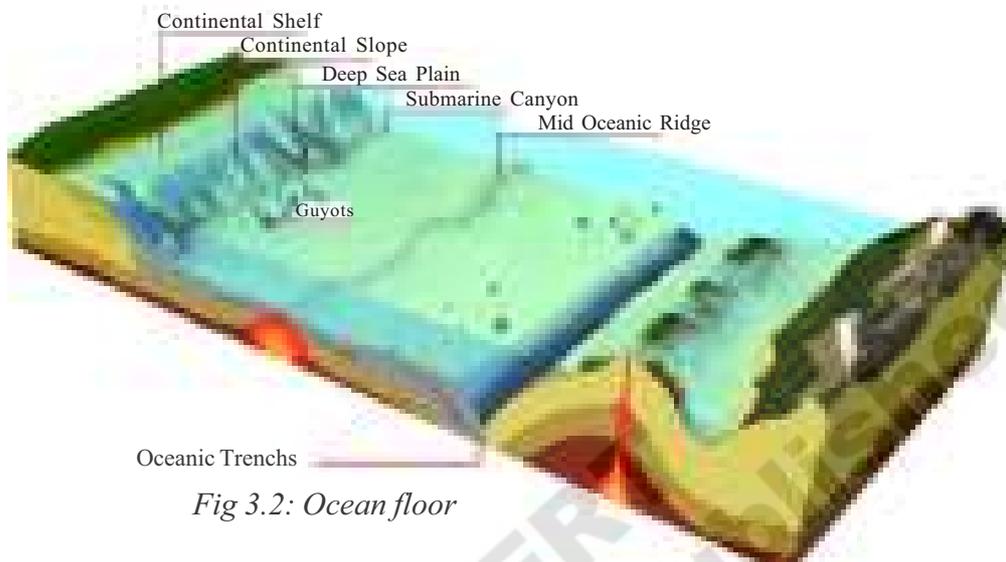


Fig 3.2: Ocean floor

2) Continental Slope: The Continental slope is spread from 200 mts to 3,000 mts depth, with complex relief. It comprises of 15% of the ocean area. The continental slope boundary indicates the continents. Submarine canyons are observed in this region. These are formed by erosion process of glaciers and rivers.

3) Deep Sea plain (or) Abyssal Plain: Deep sea plains are gently sloping areas of the ocean basins. These are the flattest and smoothest regions of the world. The depths vary between 3000-6000 mts. It covers about 76.2% of the ocean basin.

4) Oceanic deeps (or) Trenches: These are the large narrow trenches that plunge as great ocean deeps to a depth of 6,000 mts. Contrary to our expectations, most of the deepest trenches are not located in the midst of oceans. They are found more close to the continents. That is why they are very significant in the study of plate movements. As many as 57 deeps have been explored so far.

Do You Know?

Isobaths – A line joining points on the sea bed at an equal vertical distance beneath the surface. Sometimes referred to as depth contours.

Do you know major ocean trenches?			
Sl. No	Name of the trench	Ocean	Depth (mts)
1	Challenger (or) Mariana	The Pacific Ocean	11,022
2	Puertorico (or) Naves	The Atlantic Ocean	10,475
3	Java	The Indian Ocean	7,450

Salinity of the Ocean

Did you ever take food without salt? Was it tasty? Did early human beings use salt in their food? Where is salt available other than ocean? Is salt used just for taste or for any other reasons? Is water salty in your village tank? Then why is ocean water salty? Do you know that taking salt as basis Mahatma Gandhi had led civil disobedience movement (or) Dandi march which was one of the biggest freedom movements?

Did you ever wonder why the oceans are filled with salt water instead of fresh water? Just where did the salt come from and is it the same salt you find in the dining room table? Most of the salt in the oceans come from land. Over millions of years rain, rivers and streams have washed over rocks containing the compound Sodium Chloride (NaCl), and carried into the sea. You may know Sodium Chloride by its common name table salt. Some of the salt in the oceans come from under sea volcanoes and hydro thermal vents. When water evaporates from the surface of the ocean, the salt is left behind. After millions of years the oceans have developed a noticeably salty water.



Fig. 3.3: Water Salinity

Salinity is the term used to define the total content of dissolved salts in sea water. It is calculated as the amount of salt (in grams) dissolved in 1,000 gms of sea water. It is usually expressed as parts per thousand (‰) or PPT. Generally speaking the average salinity of the oceans is 35‰ or about 35 parts of salt in 1,000 parts of water. All sea water contains large amounts of dissolved mineral matter of which Sodium Chloride or common salt alone constitutes 77.8%.

Do You Know?

River water contains 2‰ of sodium chloride.

Factors affecting salinity in surface layers of Ocean:

1. Evaporation and precipitation.
2. In coastal regions by the fresh water flow from rivers and in Polar regions by the process of freezing and thawing of ice.
3. Winds by transferring water to other areas.
4. The ocean currents.

Do You Know?

Highest Salinity in Water bodies

- 1) Lake Van – Turkey – 330‰
- 2) Dead Sea – Israel – 238‰
- 3) Great Salt lake – USA – 220‰

Lowest Salinity in Water bodies

- 1) Baltic Sea – 3-15‰
- 2) Hudson Bay – 3-15‰

Isohaline: A line joining the points in the ocean having the same degree of salinity.

- Give the reasons for the low salinity of Baltic sea.

Ocean Temperature

When compared to land the temperature in oceans does not show much variation. But these little variations show great impact. For example, the activeness of South West monsoon in India is affected by 'El Nino' and 'La Nino'. These are the effects caused by the changes of temperature in The Pacific Ocean. The ocean temperature is influenced by latitudes, winds, ocean currents, unequal distribution of land and change of seasons.

Normally, the temperature in the oceans varies from -2°C to 29°C . Can you imagine why the temperature does not go beyond above limits?

Do You Know?

Highest temperature is recorded in Inland Seas. The temperature is highest in Red Sea i.e., 38°C .

Vertical Distribution of

Temperature: As one goes deep inside the oceans, the temperature decreases. The fall in temperature is very steep for the first kilometre. After that there is a steady decline upto a depth of 5 kilometres. Below that the temperature is steady at about 2°C .

Ocean Currents

The ocean current is the general movement of a mass of water in a fairly defined direction over great distance. The ocean currents are sometimes called ocean rivers. Ocean currents may be classified, based on temperature, as cold currents and warm currents.

Generally warm currents flow towards the poles, cold currents flow towards the Equator. Ocean currents are classified as stream and drift based on speed. The ocean water current which flows speedily is called a stream and that which flows slowly is called a drift. Ocean currents are caused by following factors.

1. Centrifugal Force: The Centrifugal force at the equator is greater than that at the poles because the great circles at the time of revolution coincide with the equator. The variation of these forces make the equatorial water to move towards the poles.

2. Effect of Winds: The stresses due to wind and the wind movement modifies the theoretical direction of currents. Due to the frictional gliding of winds water is dragged along the wind direction. Thus a 50 miles per hour wind will produce a current whose velocity is 0.75 miles per hour.

3. Precipitation: The equatorial areas receive the greatest rainfall hence the sea level is higher. As a result water moves north and south from the equator.

4. Solar Energy: Heating by solar energy causes the water to expand. That is why, the ocean water is about 8 cm higher in level near the equator than in the middle latitudes. This causes a very slight gradient and water tends to flow down the slope.

Salinity, density differences, melting of ice also affect the ocean currents.

Ocean as a Resource

Most life on earth is under the water. Human being still have not finished identifying all different forms of life in oceans. Human beings have depended on oceans for their food and livelihood from the ancient times. Oceans provided abundant food resources like fish and salt. We also use the sand, gravel etc. for our industries or housing. Humans extract minerals like chlorine, fluorine, iodine from it. Ocean waves are used for generating power. Ocean floor is mined for oils. Oceans also provide with gems and pearls. For centuries we have created our civilisations on its shores and traded across each other travelling over them.



Fig. 3.4: Petroleum drilling at Bombay High

Yet today Oceans have also fallen victim to our exploitation. Many large fish likes whales have been disappearing. Oceans have also become dumping ground for our plastic and other forms waste.

Do You Know?

Access of Pure Water

68.7%	Ice and snow
29.9%	Underground water
1.4%	Rivers, lakes and reservoirs
100.0%	Total

Key words

1. Stream 2. Drift 3. Ocean currents 4. Transpiration

Improve your learning

- Find the odd one out and give explanation for your choice.
 - evaporation
 - condensation
 - salination
 - precipitation
- Correct the false statements.
 - Oceans trenches can be located near the continents
 - Relief features of the oceans are like plains
 - Most salt in the seas are washed into it from the land over centuries
 - Temperature of ocean water remains the same across the globe
- Describe any one impact of ocean currents for the region you live.
- Do you think description of blue planet is accurate? Describe anyone way your activity impacts its oceans.

Project

Prepare a list of currents which are found in the Pacific, Atlantic and Indian oceans. Identify the cold currents in different oceans.

The Pacific Ocean		The Atlantic Ocean		The Indian Ocean	
Warm currents	Cold currents	Warm currents	Cold currents	Warm currents	Cold currents

In the previous chapters you read about Lithosphere, Hydrosphere. In this chapter we will read about Atmosphere.

We breathe in air with oxygen. We can't live without it. When we breathe out we give out carbon dioxide. Also atmosphere makes life possible due to other reasons too. For example, it prevents harmful rays of the sun from reaching us. Green plants take in carbon dioxide, use sunlight and water to photosynthesise, and we end up getting delicious fruits, vegetable, grains etc. from them. These give us proteins, carbohydrates, sugars, fats, minerals, and other nutrients that we need to live. It is the atmospheric winds, which transport water from the oceans deep into the continents in the form of rain. Without this, many rocks would not erode. This means we would not have many kinds of soils. So, we would not be able to grow different kinds of crops.

We couldn't enjoy the cooling monsoon rains, the scents of fragrant flowers, and the sounds of music without the atmosphere to help us. We can't fly the beautiful kites. Birds can't fly or soar in the sky. Flags would not flutter.

So, what is this wonderful and awesome thing called the atmosphere?



Fig. 4.1: A picture of Earth taken from about 322 km above the Earth. The atmosphere is that thin blue band between Earth and the black colour of space

The atmosphere is a sea of gases surrounding Earth. In a sense, we are all swimming in a sea of gases (just as fishes are swimming in a sea of water). When we compare the size of Earth, the atmosphere is a very thin blanket surrounding Earth. The atmosphere is about 1,000 kms thick. The space agency of the USA, the National Aeronautics and Space Administration (NASA) gives this description: if Earth is the size of a basketball, the atmosphere would be like a thin sheet of plastic wrapped around it.

- What will happen if water vapour is not present in air?
- Our skin dries up more during winter. Why?

Being composed of gases, the atmosphere exhibits all the properties of gases – it compresses and expands and it has no shape. (Gas can be stuffed more and more into a small space like you do it in your cycle tube – this is compression of gas.) There are many gases in the atmosphere, but oxygen (about 21% by volume) and nitrogen (about 78% by volume) dominate. Other gases are in very small percentages; these include, argon, neon, carbon dioxide (about 0.03% by volume), methane, ammonia, ozone etc.

Water vapour accounts for about 0.4% by volume over the whole atmosphere, but most of it is close to the surface (within about 6 km above Earth). Yes, water vapour is a gas! No, the clouds that you see in the sky are not water vapour, they are water droplets.

Apart from these gases, the atmosphere also has fine dust particles; these are called particulates. Particulates may come from natural processes (for example: sand storms over deserts and natural forest fires) and from human activity (for example: burning forests, burning petroleum, and industrial emissions).

These particulates can change atmospheric conditions that may be beneficial to life on Earth. Have you ever seen a beautiful, bright orange sunrise or sunset? particulates in the atmosphere cause that bright colour! And that rainfall you love

- List out some of the ways in which particulates in the atmosphere are beneficial to us and harmful to us.
- Why is atmosphere important for us?
- Can you imagine why life is not possible on the Moon?

to play in? The hail stones you love to collect and eat? The particulates make these also possible. The particulates also can cause problems by altering temperature and rainfall patterns. For example: they can make it difficult for people to breathe, they can settle on leaves and make it difficult for plants to breathe and photosynthesise.

Structure of the Atmosphere

Just like the interior of the earth is arranged as layers, atmosphere too is arranged into various layers, having different compositions. Can you imagine the layers? It is not an easy job to study about the structure of the atmosphere which is

very windily spread. Scientists are finding about it through air balloons, satellites etc. On the basis of chemical composition the atmosphere is divided into two broad layers:

- 1) Homosphere
- 2) Heterosphere

Homosphere: The homosphere extends up to a height of 90 kms. It consists of three layers. Troposphere, Stratosphere, Mesosphere. It is characterised by uniformity in composition of gases like nitrogen, oxygen, argon and carbon dioxide.

Heterosphere: The layer above 90 kms of the atmosphere is called heterosphere. It has a heterogenous composition and hence the name heterosphere. It has two layers called Thermosphere and Exosphere.

Atmosphere can also be divided into various layers based on density and temperature.

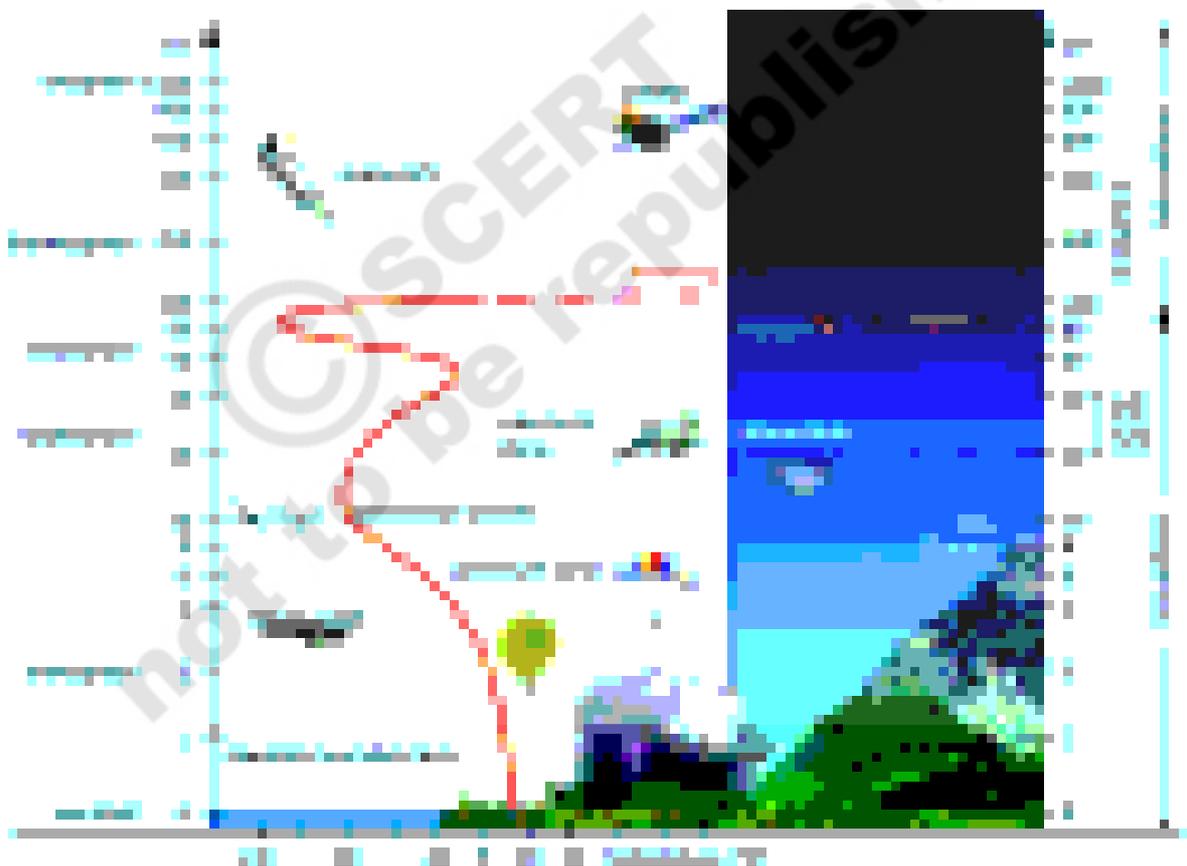


Fig. 4.2: Structure of the atmosphere

1. Troposphere: The troposphere is the lower most layers of the atmosphere. Its average height is 13 kms and extends roughly to a height of 8kms near the poles and about 18 kms at the equator. Thickness of the troposphere is greatest at the equator because heat is transported to great heights, by strong convectional currents.

It contains about 75% of the total gaseous mass of the atmosphere and practically all the moisture and dust particles. The entire weather phenomenon happens in this sphere. The temperature in this layer decrease as we go higher which is called as Normal Lapse Rate. Condensation, evaporation, precipitation, rainfall, cyclones etc. occur in this layer.

2. Stratosphere: This layer extends up to a height of 50 kms. This layer is almost free from clouds and associated weather phenomenon, making conditions most ideal for flying jet aircrafts. One important feature of stratosphere is that it contains ozone layer. The temperature increases as there is increase in altitude.

3. Mesosphere: It extends up to a height of 80 kms. Meteorites burn up in this layer on entering from the space. Temperature starts decreasing with the increase in altitude.

4. Thermosphere: It extends up to 400 kms. In thermosphere, temperature rises rapidly with increase in height. It contains electrically charged particles known

as ions. Radio waves transmitted from the earth are reflected back to the earth by these ions. It is also called as Ionosphere.

5. Exosphere: It is the upper most layer of the atmosphere. This is the highest layer and very little is known about it.

- In which layer is the life present?
- About which layer do we have very less knowledge?
- Which layer of the atmosphere is ideal for flying jet aircrafts? Why?

Pressure Belts and Planetary Winds

Air Pressure: The air around us is composed of gas molecules (very tiny particles). These molecules are constantly pushing each other or any object that comes their way. This push affect them exert together on any object is described as Air Pressure. Thus air exerts pressure not only from the top but also from the bottom and the sides of an object if it is exposed to air on those sides.

The pressure of air increases if there are more molecules present – so more of them will be exerting push. This usually happens on the surface of the earth – as the earth pulls most of the air molecules to its surface due to its gravitational pull.

However, this changes when the air is heated up. When gas molecules are heated up (usually due to the heating of the Earth's surface) they get a lot of energy and start moving very fast. This initially would mean an increase in pressure as they will be pushing the object more. However, the energised molecules start flying off higher and higher. Remember they have more energy now to defy the pull of the earth! When more molecules go to higher reaches of the atmosphere, the place near the earth has less of them – this means less pushing around or less pressure.

That is why geographers say that when it gets hot, the air pressure becomes low and when it becomes cool, air pressure increases. In simpler terms: if one increases, the other decreases – this is called an inverse relationship.

When heated air rises, it starts losing the energy (in the form of heat) that it got from Earth's surface. When the energy decreases, the molecules slow down, become more sluggish, and get closer to each other – air becomes cooler and denser. Dense air starts falling back towards Earth's surface due to gravity. They don't have enough energy to fight gravity any more! Wherever this cool air descends, air pressure increases.

That is not all. When any part of the earth heats up and causes low pressure, it means that there is more vacant space and less molecules. Now air from other parts where the pressure is higher moves towards this vacant place. It is not difficult for them for they have to only move along the earth's surface and thus need not go too much against gravity. That is why we say that wind flows from high pressure areas to low pressure areas.

Pressure Belts

The Earth's surface does not heat uniformly. Land heats up faster than sea. Land deep inland heats up faster than land near the sea. So the air above the land gets heated more quickly. Water takes more time to heat. So the air above water gets heated more slowly.

However, when it comes to cooling, land cools faster and water cools down slower in comparison to each other. So the heating and cooling is happening at different rates in different places. Therefore, the pressures are also varying from place to place.

There's even more! You have learned the relationship between latitudes and seasons. You learned that the tropical latitudes receive the most intense amount of solar radiation are hotter than temperate or polar latitudes that receive less intense solar radiation. Hence, the tropics are hotter than the rest of the world. So, with temperature variation there is pressure variation around the world.

Just as water moves from a higher place to a lower place and heat moves from warmer objects to cooler objects, air moves from areas of higher pressure to areas of lower pressure. When air moves like that, we call it wind.

If it moves at a slow pace and we feel comfortable in it, we call it a breeze. If the wind comes in a short and fast burst, we call it gust. If it moves very fast and blows things around, we call it storm. Along the Andhra Pradesh coast, we experience cyclones which are very high-speed winds.

Winds are moving all over the world. At the equator, the high temperature heats up the atmosphere and the hot air rises, creating lower pressure at the Earth's surface around the equator. This low-pressure belt (it is like a belt around Earth!) is called

equatorial low pressure belt or the Inter-Tropical Convergence Zone (shortened to 'ITCZ'). As this air rises, it cools and starts descending. But it cannot come back in the same path that it took when it went up. As it reaches the upper heights of the atmosphere, the air spreads away from the equatorial region towards northern and southern hemisphere. As it spreads, it also starts descending – it is cooler, denser, and so starts to sink back to Earth. Where it descends, we find the pressure is higher is called sub tropical high pressure belt.

Having come down, as the air hits Earth's surface it splits into two parts -- one part again rushes towards the equatorial lower pressure area. When they get there, they get heated again and rise. Thus, the equatorial cycling of wind continues.

The other part is pushed towards the next higher latitudes where the pressure is lower. Just for reference here, let us call these winds "A." (Remember, "A" is not an official name for these winds, we are using it just for convenience here.)

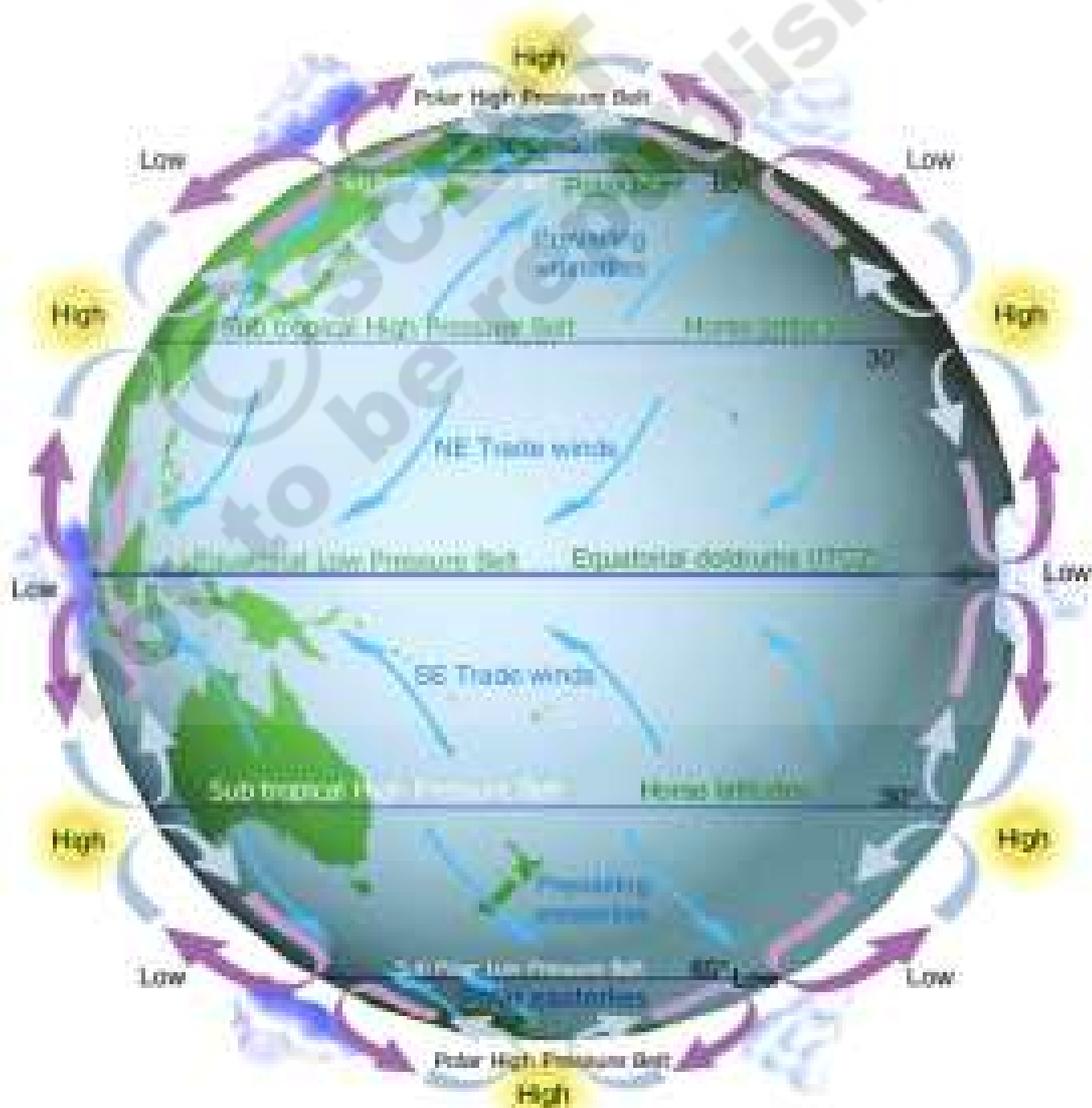


Fig. 4.3: Pressure Belts and Planetary winds

The air in the areas of the north pole and south pole are so cold that the air there is at higher pressure (polar high pressure belt) than in the area of latitudes along the Arctic Circle (in the north) and the Antarctic Circle (in the south) (sub polar low pressure belt). So, the polar winds rush towards these lower pressure areas. There, they meet the “A” winds.

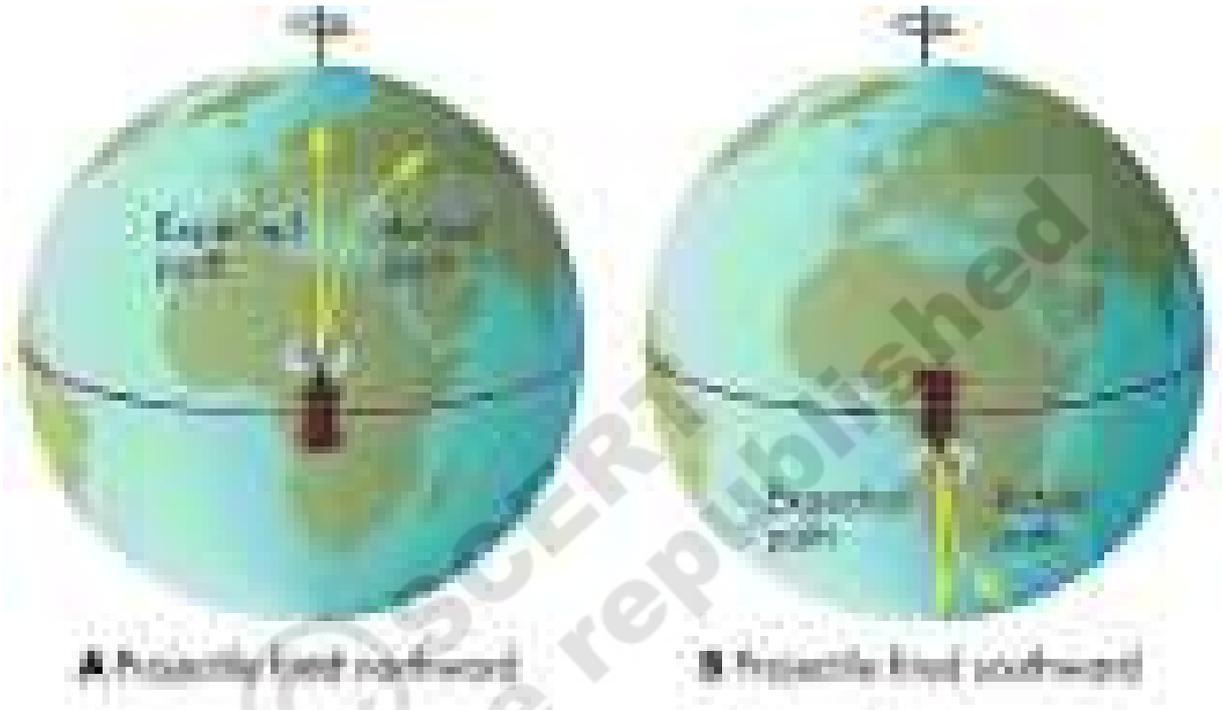


Fig. 4.4: Diagram showing Coriolis effect

Normally we would have expected the winds to move in a straight line from north to south, or south to north from the temperate zone to the tropic zone. (remember that temperate zones are there both to the south and north of the Equator.) But actually the winds move slightly to the right (towards east) in the northern hemisphere and to the left (towards the west) in the southern hemisphere. This is because of the impact of Earth’s rotation on its own axis. This effect is called Coriolis effect, having ‘0’ effect near the equator and maximum effect near the poles.

Thus, the atmosphere is always in circulation all around the world. The winds play a very important role in the weather and climate patterns around the world. They have also played a very important role in history. For example, Vasco da Gama found the sea route to India using winds to power his ships. He was able to transport and trade large quantities of pepper, cinnamon etc. to Portugal because of this. In this way, these winds also were crucial to the establishment of the Portuguese rule over Goa.

Remember, there are also many small local variations in the wind patterns.

Classification of Winds

Depending upon the wind speed, their features, their directions, the way they occur, winds are classified into three types.

- A. Planetary winds - Occuring on the planet as a whole through out the year.
- B. Seasonal winds - Restricted to regions or seasonal in character.
- C. Local winds - Local in character.

A. Planetary Winds: The winds that blow continuously and regularly above the world pressure belts are known as planetary winds. These are of 3 types -Trade winds, Westerlies and Polar winds. Trade winds in the tropics, westerlies in the temperate belt, polar winds in the polar belt. Trade winds are Easterly in direction

- Observe the figure 4.3 and describe from which pressure belt to which pressure belt are the Westerlies, trade winds and polar Easterlies are blowing.

i.e moving from East to West. They are North East trades in Northern hemisphere and South East trades in Southern hemisphere. Westerlies, on the other hand blow from West to East, that's why they are called westerlies.

They are South West in Northern hemisphere and North West in Southern hemisphere. Polar regions experience once again Easterlies.

Effects of Planetary Winds: You would have noted that the pressure and wind systems are actually the impact of Lithosphere and Hydrosphere on Atmosphere. These winds play a crucial role of transporting heat and moisture across the world. That is why no part of the world gets too cold or too hot for life to survive. Had there been no atmosphere (as on the Moon) it would have got intolerably hot in day time or in the tropics and intolerably cold in night or in the Polar regions. However, these winds do not distribute heat or moisture uniformly – which is why we have some parts of the earth quite hot and some parts cooler and some parts with high rainfall and some which are deserts.

B. Seasonal Winds: The rainfall which occurs in India is mainly due to seasonal winds. All factors in the country are related to monsoons. Monsoon is derived from Arabic word *Mausam*.

Existence of monsoon is due to differential cooling of land and sea. Summer monsoon develops over north-western India, while south-east trades cross the equator. As a result of coriolis effect, it becomes south west monsoon over peninsular India and adjacent countries. In winter reversal of pressure belts i.e north-east trade winds cross the equator. As a result of coriolis effect it becomes north-west monsoon over the north, north-east Australia.

C. Local Winds: The local winds blow due to local variation in the temperature and pressure, and influence a very small area. Hot local winds raise the temperature

of the area. Cold local winds sometimes bring the temperature of the affected area below the freezing points. These local winds blow in the lower layer of the troposphere. The mountain and the valley breezes, as well as sea and land breezes are also one class of local winds. These winds respond to local pressure gradients (pressure changes) set up by heating or cooling of the lower atmosphere.

Hot Local Winds

1. Chinook : These winds move down the Rocky mountains in the USA-Canada and part of North America. Many people believe that the word Chinook means “snow eater”.



Fig. 4.5: Chinook

Actually it is the name of a native American tribe, called the Chinook, people who lived in the region where these winds are observed. It keeps the grass lands clear from snow during much of the winter. Similar winds that occur in Europe are called Foehn. They blow along the northern slope of the Alps. It melts the snow, makes the weather pleasant and helps in early ripening of the grapes.

2. Loo: These are hot and dry winds blowing in the plains of northern India from the west to east in the months of May and June. It may cause sunstroke to people because of high temperature.

Simmon in Arabian desert, Yoma in Japan, Norwester in New Zealand are some of the other examples of hot winds.

Cold Local Winds

1. Mistral: The most famous is the mistral that blows from the Alps over France towards the Mediterranean Sea. It is channeled through the Rhone Valley. It is very cold and dry wind.

2. Puna: This is the cold local wind in the Andes region.

3. Pampero: These are the cold polar winds blowing very fast in the pampas region of South America.

Weather and Climate

Perhaps you have heard of a cricket match being postponed due to ‘bad’ weather (rain). You may have had to postpone your own games due to rain or excessive heat saying, “The weather is not suitable.”

You may have also heard people say, “This year, the monsoons are on time.” The prices of most fruits go up when they are ‘not in season’ but come down when they are ‘in season.’ You may also have heard things like, “The climate in north India is not suitable for me!”

These two words, weather and climate are very important concepts in geography. They shape our lives in many ways. And many people confuse the terms and say ‘weather’ when they mean ‘climate’ and vice versa. You will know the difference by the end of this section.

This mixture of gases and particulates that we call the ‘atmosphere’ is not sitting still. It is very dynamic; it moves up and down and horizontally in all directions. As it does this, its characteristics change – it may get warmer or cooler, wet or drier etc. When we describe the condition of the atmosphere for small period of time (usually about 10 days at most). Weather can change daily; even within a day!

Climate is a description of the average atmospheric conditions for areas over a long period of time. Climatic descriptions are based on decades of atmospheric data and finding the averages of them. Climate descriptions tell us what conditions are for a given time of year, but not on specific days.

How do we describe the atmosphere? We use (a) temperature, (b) pressure, (c) wind, (d) humidity, and (e) precipitation. These are called the elements of weather. We use these to describe climate also, as you will see soon; so these are also elements of climate. You have just learned about pressures and winds above. Let us take a look at the other elements now.

Temperature: In class VIII you learned about the temperature of the atmosphere. There, you compared temperature patterns for Panaji, Shimla, and Delhi. You also learned that Shimla, being at a higher altitude than Panaji and Delhi, had cooler temperatures. On Earth’s surface, as you go higher in altitude, the temperatures decrease.

Humidity and Precipitation

In this section we will see how water cycle works in the atmosphere. You can see how hydrosphere and atmosphere interact with each other. Water vapour is a

very important component in the atmosphere. In most places, amount of water vapour in the atmosphere varies over time and as part of changing weather patterns. In many places, in winter, it is dry and cold. In such places, our skin may feel itchy, dry, and it may crack. You will probably have experienced cracked lips for which you may have used lip balm, vaseline, or oil of some kind.

Combined with high temperature, it is water vapour that causes you to feel sultry and sweaty. When this happens we say it is ‘very humid’ or ‘the humidity is high.’ But not all places are similar in this respect. Some places feel very dry (example: deserts). The moisture (water vapour) in the atmosphere is derived from water bodies through evaporation and from plants through transpiration. Humidity is the amount of water vapour in the air. In high humidity, our sweat doesn’t cool us because it cannot evaporate. In low humidity, we also feel more thirsty.

Do You Know?

Hygrometer is an Instrument that measures the water vapour content (Humidity) of the air.

Remember those particulates you learned about earlier? Recall how they help in rainfall.

We express humidity not directly, but using the concept of relative humidity. Relative humidity is the ratio between two things:

1. The maximum water vapour that the air can hold at a given temperature and pressure, and
2. The actual amount of water vapour it holds at any given time.

For example, at 20°C temperature air can contain 80 gms of water vapour per cubic meter. If the actual water vapour present is only 40 gms, the relative humidity is 50%. Relative humidity increases with decrease of temperature or addition of water vapour. Relative humidity decreases with increase of temperatures and decrease of water vapour. The critical temperature at which saturation level reached is called dew point. Have you seen dew drops? Where are they found? If the atmosphere has 100% relative humidity, it is known as saturation level.

Condensation

Condensation is the opposite of evaporation, as it involves conversion of water vapour into droplets of water or crystal of ice. When the relative humidity exceeds 100%, the excess of water vapour present in the atmosphere gets condensed as minute droplets of water. For example when air at a temperature of 20°C contains 49 gms of water vapour per cubic meter and gets cooled to 10°C it can hold only 40 gms of water vapour at saturation level. The excess of 9 gms of water vapour

gets condensed. Condensation can take place only when minute solid particles are present in the atmosphere. Condensation can also take place on a contact surface. For example, did you observe what happens when cold water is filled in a glass? Condensation occurs on the outer side of the glass, as moisture in the air is getting in contact with a cold surface. When water vapour condenses on surfaces such as plants, we get dew.

The dust particles attract water molecules from the water vapour in the atmosphere. This causes condensation (condensation means becoming denser) of the vapour into droplets. Millions and millions of these droplets, together, appear as different kinds of clouds. If the clouds are cold enough, they may also contain ice crystals. Clouds are classified into different types on the basis of their forms and heights at which they are found. For example, Cirrus clouds (at higher level), cumulus clouds (at middle level), stratus (at lower level), nimbus (rain bearing, and vertical clouds).

With condensation, the droplets get heavy and fall to Earth as precipitation (from the Latin praecipitatio meaning to fall headlong, to plummet) – in the form of rain, snow, hail, etc. If these droplets condense very close to Earth's surface, the droplets are lighter and we get fog.

Forms of Precipitation

Rainfall is the most common form of precipitation. When condensation takes place at temperature below freezing point, water vapour condenses directly into ice crystals. These may fall down on the earth as powdery mass or flakes of snow. This form of precipitation is called snowfall. Snowfall is quite common in middle and high latitudes, and mountain regions.

When rain falls through a cold layer of air near the earth's surface, rain drops get frozen into ice and fall down. This form of precipitation is called sleet.

When there are strong vertical currents in the atmosphere, condensation takes place at high altitudes at low temperature. Ice crystals grow in size gradually but do not fall down owing to ascending currents. Eventually, the ice crystals grow to large size of a few centimeters in diameter and fall down as solid masses. This form of precipitation is called hail stone. Hail stone causes damage to crops and buildings.

Types of Rainfall

On the basis of origin, rainfall may be classified into three main types:

- 1) Convictional Rainfall
- 2) Orographic Rainfall
- 3) Cyclonic Rainfall

Convictional Rainfall: This type of rainfall occurs when moist air over the heated ground becomes warmer than the surrounding air and is forced to rise, expand, cool and yield some of its moisture. Convictional rainfall is common in low latitudes and on summer days in interior part of the continents, and usually come in the form of short heavy showers just after the hottest part of the day, sometimes accompanied by thunder and lightening.

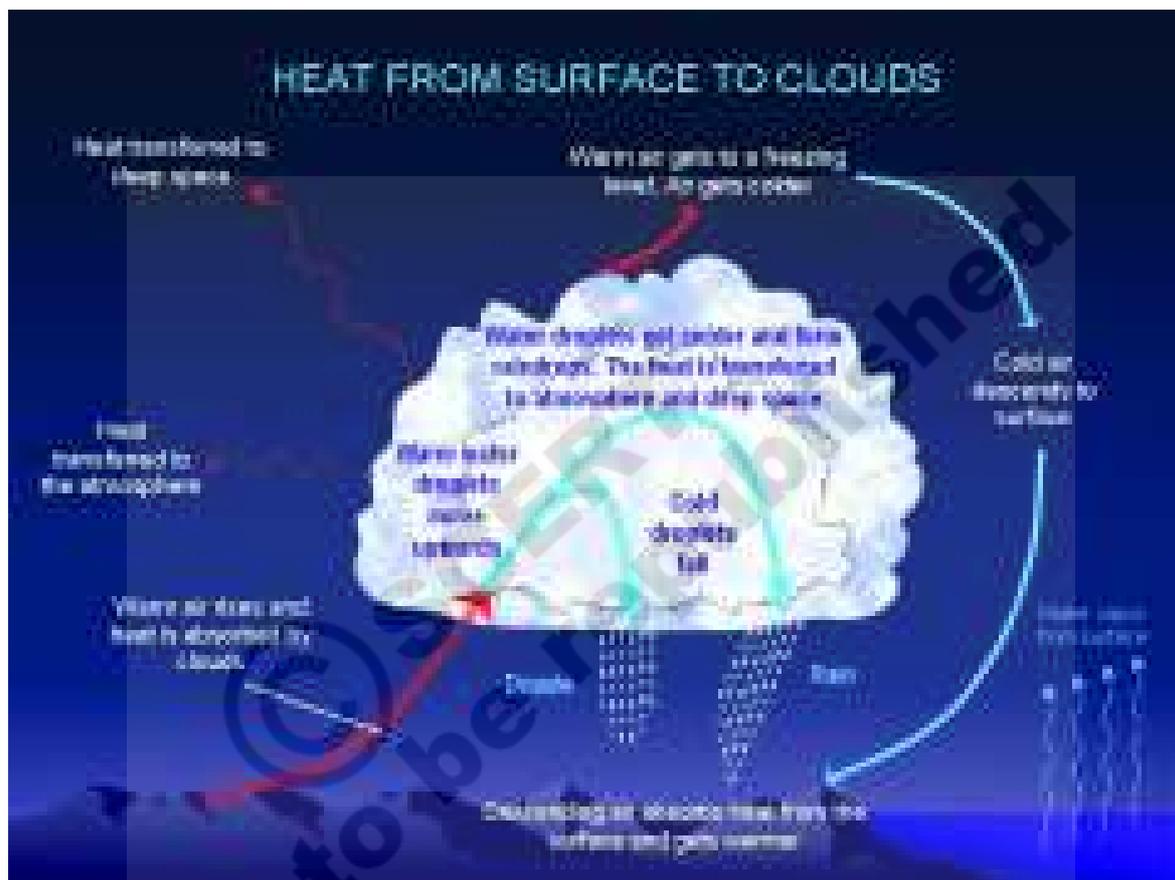


Fig. 4.6: Conventional rainfall

Orographic Rainfall: ‘Orographic’ rainfall is also sometimes called ‘orogenic’ rainfall. We get this term from the Greek oros, meaning ‘mountain.’ This occurs when moist wind is forced to rise over mountain or other elevation in its path. Thus the windward sides of many mountain ranges receive heavy precipitation; whereas the leeward sides along which the air moves down receives less rain fall. Such situation occurs widely along the western coast of India.

The moist air from the Arabian Sea is forced by the Western Ghats to rise up resulting in expansion, cooling, and rainfall. On the other side of the Western Ghats, the descending wind is devoid of moisture and hence, does not give the rain in the central part of Deccan Plateau. Hence this region is dry and is known as rain-shadow region.

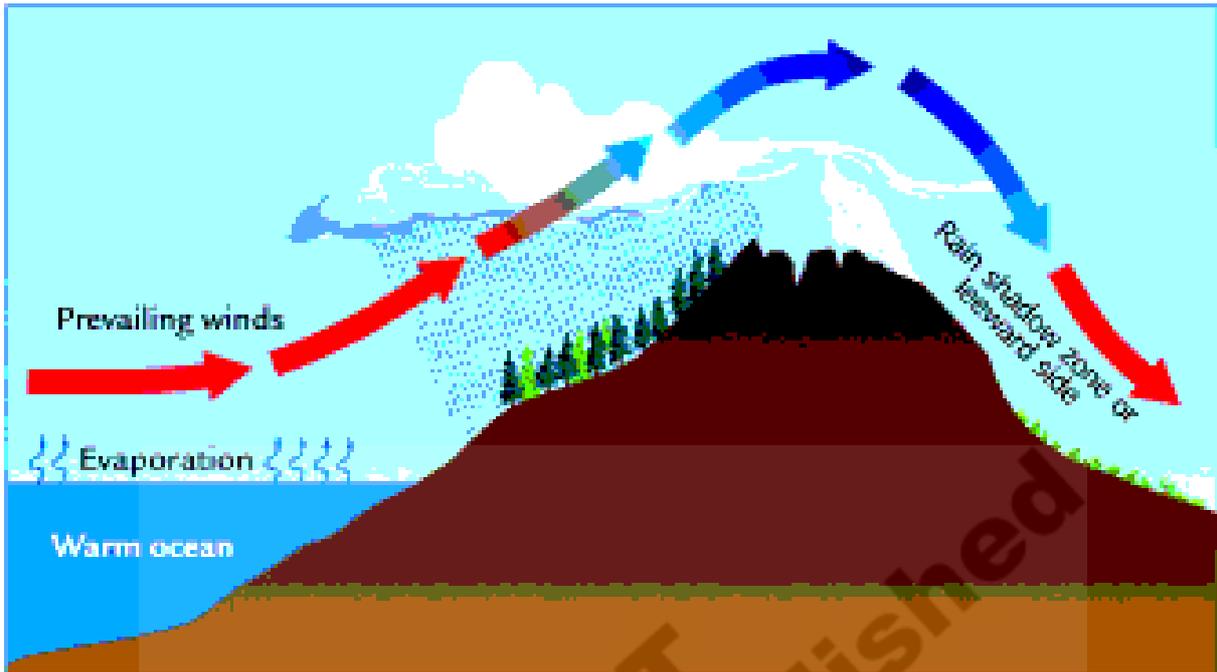


Fig. 4.7: Orographic Rainfall

Cyclonic rainfall: This type of rainfall is associated with the passage of a cyclone or a depression. There are two types of cyclones – the tropical cyclones and the temperate cyclones. The term cyclone is derived from the Greek word ‘*kyklon*’, meaning ‘*revolving*.’

Tropical cyclones are warm-core vortex circulation of tropical origin with a small diameter (some hundreds of kilometers) often of an approximately circular shape, minimum surface pressure (less than 900 mb) with sustained maximum



Fig. 4.8: Tropical Cyclone

winds of at least 33m/sec. They are developed on the warm sea surface (26°C to 27°C) and move towards the land. The winds are lifted up by the moving of cyclones. The uplifted air gives heavy rainfall. Temperate cyclones occur when the cold, dry, denser air masses converge with warm, wet, lighter air masses. The warmer air, being lighter, is lifted up by the denser cold air and it results in the rainfall.

Rainfall across the globe:

1. Between the latitudes 10° and 30° N and S of the equator, due to the trade winds, rainfall is heavier on the eastern coasts, and decreases towards the west.
2. Between the latitudes 40° and 60° N and S of the equator due to the westerlies, the rainfall is heavy on the west coast, and decreases towards the East.
3. Low pressure areas especially around the equator, receive high rainfall than high pressure areas.
4. The rainfall is more over the oceans than on the continent.

Key words

- | | |
|--------------------------|-------------------------------------|
| 1. Convictional currents | 2. Inter Tropical Convergence Zone. |
| 3. Coriolis effects | 4. Relative humidity |
| 5. Leeward side | 6. Tropical Cyclones |

Improve your learning

1. Explain the composition of the atmosphere.
2. Discuss the structure of the atmosphere with a diagram.
3. Differentiate weather and climate.
4. Compare and contrast convectional and orographic rainfall.
5. Describe distribution of world rainfall.
6. How do the climatic changes influence the human life?
7. Explain relative humidity?
8. Why does the amount of water vapour decrease rapidly with altitude?
9. What is coriolis force? And explain its effects.
10. Identify the given local winds in the world map?

a) Chinook	b) Loo	c) Simoon	d) Yoma
e) Norwester	f) Mistral	g) Puna	h) Pampero

Project

1. Collect weather information over media such as newspapers, TV, Radio etc. for understanding weather phenomenon.
2. Collect through the newspapers from July to December and note the news about extreme rainfall in different parts of country.

The Earth is a unique planet, in that it has life thriving on it. It is inhabited by countless forms of life from microscopic bacteria to great banyan trees and animals like elephants, tigers and blue whales and of course human beings. The fact that the earth has a combination of land, air and water, and a moderate temperature due to a moderate distance from the Sun, has made life possible on it. We saw in an earlier lesson that life thrives only in the intersection of the three spheres – lithosphere, atmosphere and hydrosphere. According to many geographers, life itself constitutes a separate sphere called ‘biosphere’.

All forms of life have an integral connection with the land, air, water and sunshine around them. They draw their sustenance from them and in turn affect them in significant ways.

Various forms of life are not only related to the three spheres around them, but also to each other. They are part of a complex ‘food chain’ – that is one kind of life

becomes the food for another kind. Many of the life forms also are symbiotic, that is they live by exchanging essential substances with each other. Let us consider some examples:

- Can you say how plants are dependent upon air and water and how they affect the two in return?
- In what ways are insects like mosquitoes and butterflies dependent upon rocks or soil and upon water? How do they affect them in return?

The primary food producers are the plants which produce food with the help of sunlight. The plants themselves draw their vital nutrients from the soil, especially from organic compounds

formed due to decay of other plants and animals. They also depend upon nitrogen stored in the soil by bacteria. The food produced by the plants are eaten by animals, usually called ‘herbivores’ or plant eating animals like deer, cattle, goats, elephants etc. Living beings like dogs, cats, fishes, birds, tigers etc. eat the flesh of herbivorous animals and in this way are indirectly dependent upon plants. Bacteria and fungi help in decomposition of dead trees and animals and breaking them down into organic compounds which the plants draw upon for their growth. Thus the cycle of life goes on.

Any disturbance in this cycle can create what is called an ‘ecological crisis’. For example if a particular species which feeds upon a particular kind of plant is

exterminated, it would result in unchecked growth of that plant. It may grow so much that it may intrude into the area of other plants and stop them from growing.

Another example of disturbance is mixing of some poisonous substances in air or water or soil. Many industries use chemicals and metals which they allow to flow into the streams and rivers. This leads to a large increase in the levels of such chemicals in the water. These metals like mercury are consumed by microorganisms in water and in turn become the food of a large number of fishes. When human beings consume these fishes they too absorb quantities of mercury that are detrimental to their health.

Let us look at another example. Vultures feed upon dead animals like cattle. Vultures eating dead carcass used to be a common sight in villages and towns some twenty years ago. However, people started noticing that vultures have virtually disappeared and are sighted very rarely. Investigations suggest that farmers use a particular chemical called Diclofenac to treat cattle. When the cattle die their flesh retains this chemical. When their flesh is consumed by vultures, diclofenac leads to kidney failure in them and they die within a week or so. In this way vultures have come very close to extinction.

Since all living and non-living things on the earth are in one way or the other connected to each other, changes affecting one, in due time affects all others too.

Natural Vegetation

Natural vegetation is generally classified into three broad categories: forests in areas of sufficient rainfall and sunshine; grasslands in regions of moderate rains; and shrubs in dry regions. In very cold regions we have tundra vegetation consisting of small shrubs, moss and lichens. Let us study some of these in greater detail.

As you may remember, there are different kinds of forests, depending upon climate of the place.

Tropical Evergreen Forests

These forests are also called tropical rainforests. These thick forests occur in the regions near the equator and close to the tropics. These regions are hot and receive heavy rainfall throughout the year. As there is no particular dry season, the trees do not shed their leaves altogether. This is the reason they are called evergreen. The thick canopies of the closely spaced trees do not allow the sunlight to penetrate inside the forest even in the day time. Hard wood trees like rosewood, ebony, mahogany are common here.



Fig. 5.1: Tropical Evergreen Forests



Fig. 5.2: Tropical Deciduous Forests

Tropical Deciduous Forests

Tropical deciduous are the monsoon forests found in the large parts of India, northern Australia and in central America (Fig. 5.2). These regions experience seasonal changes. Trees shed their leaves in the dry season to conserve water. The hard wood trees found in these forests are sal, teak, neem and shisham. Hard wood trees are extremely useful for making furniture, transport and constructional materials. Tigers, lions, elephants,

langoors and monkeys are the common animals of these regions.

Temperate Evergreen Forests

The temperate evergreen forests are located in the mid latitudinal coastal region (Fig. 5.3). They are commonly found along the eastern margin of the continents, for example in South East USA, South China and in South East Brazil. They comprise both hard and soft wood trees like oak, pine, eucalyptus etc.



Fig. 5.3: Temperate Evergreen Forests



Fig. 5.4: Temperate deciduous forests

Temperate Deciduous Forests

As we go towards higher latitudes, there are more temperate deciduous forests (Fig. 5.4). These are found in the North Eastern part of USA, China, New Zealand, Chile and also in the coastal regions of Western Europe. They shed their leaves in the dry season. The common trees are oak, ash, beech, birch etc. Deer, foxes, wolves are the animals commonly found. Birds like pheasants, monals are also found here.

Mediterranean Vegetation

You have learnt that most of the east and north east margins of the continents are covered by temperate evergreen and deciduous trees. The west and south west margins of the continents are different. They have Mediterranean vegetation. Mediterranean trees adapt themselves to dry summers with the help of their thick barks and wax coated leaves which help them reduce transpiration. This is mostly found in the areas around the Mediterranean sea in Europe, Africa and Asia, hence the name. This kind of vegetation is also found outside the actual Mediterranean region in California in the USA, south west Africa, south western and South America and South west Australia. These regions are marked for hot dry summers and mild rainy winters. Citrus fruits such as oranges, figs, olives and grapes are commonly cultivated here because people have removed the natural vegetation in order to take up agriculture. There isn't much wildlife here.



Fig. 5.5: Mediterranean vegetation

Coniferous Forests

In the higher latitudes (50° – 70°) of Northern hemisphere the spectacular Coniferous forests are found (Fig.5.6). These are also called as Taiga. These forests are also seen in the higher altitudes. These trees are found in the Himalayas in abundance. They are tall, softwood, evergreen trees. These woods are very useful for making pulp, which is used for manufacturing paper and newsprint. Match boxes and packing boxes are also made from softwood. Chir, pine, cedar are the important trees in these forests. Silver fox, mink, polar bear are the common animals found here.



Fig. 5.6: Coniferous forests

- Look around in your surroundings and find out the articles made of hard wood and soft wood.
- Find out and learn few names of trees of your locality.



Fig. 5.7: Tropical grasslands



Fig. 5.8: Temperate grasslands

- Identify the desert regions in the world map.

find the place extremely cold. The growth of natural vegetation is very limited here. Only mosses, lichens and very small shrubs are found here. These grow during the very short summer. This is called Tundra type of vegetation. This vegetation is found in the polar areas of Europe, Asia and North America. The animals have thick fur and thick skin to protect themselves from the cold climatic conditions. Seal, walruses, musk-oxen, Arctic owl, Polar bear and snow foxes are some of the animals found here.

Grasslands

Tropical grasslands: These grow on either side of the equator and extend till the tropics (Fig. 5.7). This vegetation grows in the areas of moderate to low amount of rainfall. The grasses grow very tall, about 3 to 4 metres in height. Savannah grasslands of Africa are of this type. Elephants, zebras, giraffes, deer, leopards are common in tropical grasslands.

Temperate grasslands: These are found in the mid-latitudinal zones and in the interior part of the continents (Fig. 5.8). Usually, grass here is short and nutritious. Wild buffaloes, bison, antelopes are common in the temperate region. These are known as Steppes.

Thorny bushes: These are found in the dry desert like regions. Tropical deserts are located in the western margins of the continents. The vegetation cover is scarce here because of scanty rain and scorching heat.

Tundra Vegetation: If you reach the polar region you will

Human Society and Environment

Down the ages, human societies have been interacting with the environment and in this process changing it. Hunters and gatherers used stone tools and tools made of wood etc. to hunt animals and gather tubers and fruits. They learnt to use fire – by lighting sticks and grass – the first sources of energy to be used. Thus began the tale of human endeavour to alter the environment to satisfy their needs. Human beings also began investigating into the nature of the environment around them in order to be able to change and use them for their purposes. Thus the building of knowledge of the environment is an essential part of human beings interaction with the natural world.

When human beings began to practise agriculture and animal husbandry, they began to change their environment even more. The building of cities and the use of metals like bronze and iron further changed human interaction with the environment.

Before long, people began building tanks to store water, canals to divert water to fields, and even dams across streams and rivers.

People also built roads connecting distant places and sailed in ships and boats across seas and oceans. In this way human societies established themselves not only on every continent (except the Antarctic) but over the seas and oceans too.

Gradually human population grew so much so that human beings became the dominant species on the earth. It is estimated that during BC 10,000 i.e., the time when cultivation started, the total population of human beings worldwide was about 40 lakhs. It reached to 50 crores in 1750; 100 crores in 1800; 250 crores during 1950 and to 700 crores during 2010. It is estimated to reach 1000 crores by 2100. This increase in population creates great pressure on earth as well as its resources. This means that almost the entire earth would be reshaped to suit the needs of humans.

This process of reshaping the surface of the earth received a great push with the industrial revolution and process of colonisation. Industrial production needs raw materials on an unprecedented scale and industrial countries began to search for diverse kinds of raw materials and sources of energy all over the globe. They ‘explored’ the world and made inventories of all possible resources. They dug deep

- Can you discuss how human beings would have impacted the land, water, plants and animals around them when they began agriculture and animal herding?
- What sources of energy would they have used and how would they have obtained them?
- Can you say what kinds of changes will building of cities have on the land and water around them?
- In what way do you think this would have affected the land scape and water cycle?

wells and tried to find out what lay underneath and also explored high above in the atmosphere. Soon systematic mining, cutting of forests, building of factories and fields and roads took place all over the earth. Nations began to wage wars with each other to gain control over these resources.

Such intense human industrial activity has profound impact on the air, water and the land around us. Let us try to think of some of these.

Industries – Pollutants and Effluents

Modern industries and transport systems use immense amount of energy which is derived basically from coal and petroleum (which are called fossil fuels as they are remains of forests of lakhs of years ago buried underground). The burning of fossil fuels release large quantities of carbon dioxide and other chemicals like nitrogen oxides, sulfur dioxide, volatile organic compounds and heavy metals. They also cause the release of sulfuric, carbonic, and nitric acids, which cause what are called ‘acid rains’. Acid rains are caused by the mingling of acidic particles of atmosphere with rain increasing the acid content of rain water.

KYOTO PROTOCOL

A conference was held in the city of Kyoto in Japan under United Nations Organisation in December 1997 to protect mother earth from global warming. The countries that attended realised the effect of Green House Gases and signed a declaration called Kyoto Protocol. The main aim of this is to bring down the release of Green House Gases to less than 5.2%. According to this declaration, this aim should be achieved between 2008-2012.

In addition to burning of fossil fuels, modern industries release enormous amounts of waste materials in the form of solid, liquid and gaseous waste contaminating air, water (both surface water like rivers and underground water of wells) and soil.

The cumulative impact of such pollution is gradually poisoning of our environment. One important impact is the change in worldwide climate also called ‘global warming’. Let us read about this in greater detail in Class IX biological science at Chapter X.

Depletion of Resources

Industrialisation, rapid population growth and urbanisation all have meant unprecedented exploitation of natural resources like minerals, forests, soil, water, air etc. besides sources of energy (coal, petroleum etc.) stored in the earth for billions of years. This has resulted in rapid deforestation and decline of reserves of minerals, oil and groundwater. Many scientists have argued that the present way of life is not ‘sustainable’ for if we use so much natural resources, nothing will be left for our children and grand children.

All the living beings on the earth depend on the environment and have to live according to the environment. But, for their enjoyment and development human beings are destroying nature. The commercial activities carried on by human beings are affecting every life and every matter on the earth. If this continues like this it is dangerous not only to animals but also to human beings themselves.

Do You Know?

1. Approximately 13-15 tonnes of effluents, sewage water reach Kolleru lake daily from its nearby towns and villages.
2. One study found that the radiation released by cell phone towers affects the life of honey bees. This leads not only to scarcity of honey but also affects pollination and bio diversity and here agricultural products.

Key words

1. Food chain
2. Hard wood trees
3. Acid rains
4. Ecological crises
5. Tundra

Improve your learning

1. Life itself constitutes a separate sphere called 'Biosphere'. Explain.
2. Why is ecological crisis created in modern times? What are its effects?
3. Natural vegetation depends upon the climate of the place. Write different kinds of forests and climatic conditions of their existence?
4. How can we protect natural resources?

Project

Visit any nearby industrial establishment and observe what kinds of smoke, liquid and solid wastes come out of the compound. Find out from the nearby residents about their impact on plants and animals. Based on the information collected, prepare a report and present in the class.

Agriculture in India

Types of Farming

Agriculture is an age-old economic activity in our country. Over these years, cultivation methods have changed significantly depending upon the characteristics of physical environment, technological know-how and socio-cultural practices. Farming varies from subsistence to commercial type. At present, in different parts of India, the following farming systems are practised.

Subsistence Farming - It is in two forms. They are Simple Subsistence Farming and Intensive Subsistence Farming.

1. Simple Subsistence Farming: Agriculture is practised on small patches of land with the help of primitive tools like hoe, dao and digging sticks, and



Fig. 6.1: Preparation of land for agriculture.

family/community labour. This type of farming depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions to the crops grown. It is a 'slash and burn' agriculture (Shifting agriculture). You have read about it in previous classes.

2. Intensive Subsistence Farming: It is practised in the areas of high population density on land. It is labour intensive farming, where high doses of

- Name some of the states of India where such farming is practised?

biochemical inputs and irrigation are used for obtaining higher production.

Commercial Farming: The main characteristic of this type of farming is the use

of higher doses of modern inputs, for example High Yielding Variety (HYV) seeds, chemical fertilisers, insecticides and pesticides in order to obtain higher productivity. The degree of commercialisation of agriculture varies from one

region to another. For example, rice is a commercial crop in Haryana and Punjab, but in Odisha, it is a subsistence crop. Plantation is also a type of commercial farming. In this type of farming, a single crop is grown on a large area. In India, tea, coffee, rubber, sugarcane, banana, etc.. are important plantation crops.

- Give some more examples of crops which may be commercial in one region and may provide subsistence in another region?

Cropping Seasons

Agriculture crops depend on seasons and natural resources such as soil, water and sunshine for cultivation. Temperature and humidity conditions are important. Some crops can be cultivated only in specific season regardless of the availability of water and other inputs. Therefore in any region different crops are grown in different seasons.

India has three cropping seasons – *rabi*, *kharif* and *zaid*.

Rabi crops are sown in winter from October to December and harvested in summer from April to June.

Some of the important rabi crops are wheat, barley, peas, gram and mustard. Availability of precipitation during winter months due to the western temperate cyclones helps in the success of these crops. However, the success of the green revolution in Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has also been an important factor in the growth of the above mentioned rabi crops.

Kharif crops are grown with the onset of monsoon in different parts of the country and these are harvested in September-October. Important crops grown during this season are paddy, maize, jowar, bajra, red gram, green gram, black gram, urad, cotton, jute, groundnut and soyabean.

In between the rabi and the kharif seasons, there is a short season during the summer months known as the Zaid season. Some of the crops produced during ‘zaid’ are watermelon, muskmelon, cucumber, vegetables and fodder crops.

Major Crops

A variety of food and non food crops are grown in different parts of the country depending upon the variations in soil, climate and cultivation practices. Major crops grown in India are paddy, wheat, millets, pulses, tea, coffee, sugarcane, oil seeds, cotton and jute, etc.



Paddy : It is the staple food crop of a majority of the people in India. Our country is the second largest producer of paddy in the world after China. It is a kharif crop which requires high temperature, (above 25°C) and high humidity with annual rainfall above 100 cm. In the areas of less rainfall, it grows with the help of irrigation. Paddy is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions. Development of dense network of canal irrigation and tubewells have made it possible to grow rice in areas of less rainfall such as Punjab, Haryana and western Uttar Pradesh and parts of Rajasthan.

Wheat: This is the second most important cereal crop. It is the main food crop, in north and north-western part of the country. This rabi crop requires a cool growing season and a bright sunshine at the time of ripening. It requires 50 to 75 cm of annual rainfall evenly distributed over the growing season. There are two important wheat-growing zones in the country – the Ganga-Satluj plains in the northwest and black soil region of the Deccan. The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh.

High Yielding Varieties

High Yielding Varieties of seeds and fertilizers were the key elements of new agriculture technologies. The HYVs seeds grew well when fertilizers and water were used; they had larger amounts of grain and shorter stalks and a short period maturity in most cases. The short period maturity also enables double cropping -farmers can use their lands more than once in a year.

This policy was initially implemented in Punjab, Haryana, Western Uttar Pradesh and in some districts of Andhra Pradesh and Tamil Nadu. The HYV seeds required a lot of water and these areas were already irrigated. The new variety of wheat was grown in Punjab, Haryana and Western Uttar Pradesh, while rice was grown in Andhra Pradesh and Tamil Nadu.

Maize: It is a crop which is used both as food and fodder. It is a kharif crop which requires temperature between 21°C to 27°C and grows well in old alluvial soil. In some states like Bihar maize is grown in rabi season also. Use of modern inputs such as HYV seeds, fertilisers and irrigation have contributed to the increasing production of maize. Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh and Madhya Pradesh.

Millets: Jowar, bajra and ragi are the important millets grown in India. Though, these are known as coarse grains, they have very high nutritional value. For example, ragi is very rich in iron, calcium, other micro nutrients and roughage. Jowar is the third most important food crop with respect to area and production. It is a rain-fed crop mostly grown in the moist areas which hardly needs irrigation. Maharashtra is the largest producer of jowar followed by Karnataka, Andhra Pradesh and Madhya Pradesh. Bajra grows well on sandy soils and shallow black soil. Rajasthan is the largest producer of bajra followed by Uttar Pradesh, Maharashtra, Gujarat and Haryana. Ragi is a crop of dry regions and grows well on red, black, sandy, loamy and shallow black soils. Karnataka is the largest producer of ragi followed by Tamil Nadu.

Pulses: India is the largest producer as well as the consumer of pulses in the world. These are the major source of protein in a vegetarian diet. Major pulses that

are grown in India are red gram, black gram, green gram, masur, peas and gram. Pulses need less moisture and survive even in dry conditions. Being leguminous crops, all these crops except *arhar* help in restoring soil fertility by fixing nitrogen from the air. Therefore, these are mostly grown in rotation with other crops. Major pulse producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.

- Distinguish which of these pulses are grown in the kharif season and which are grown in the rabi season?

Food Crops other than Grains

Sugarcane: It is a tropical as well as a subtropical crop. It grows well in hot and humid climate with a temperature of 21°C to 27°C and an annual rainfall between 75cm. and 100cm. Irrigation is required in the regions of low rainfall. It can be grown on a variety of soils and needs manual labour from sowing to harvesting. India is the second largest producer of sugarcane only after Brazil. It is the main source of sugar, gur (jaggary), khandsari and molasses. The major sugarcane-producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Bihar, Punjab and Haryana.

Oil Seeds: India is the largest producer of oilseeds in the world. Different oil seeds are grown covering approximately 12 per cent of the total cropped area of the country. Most of these are edible and used as cooking mediums. However, some of these are also used as raw material in the production of soap, cosmetics and ointments.

Groundnut is a kharif crop and accounts for about half of the major oilseeds produced in the country. Andhra Pradesh is the largest producer of groundnut followed by Tamil Nadu, Karnataka, Gujarat and Maharashtra. Linseed and mustard are rabi crops. Sesamum is a kharif crop in north and rabi crop in south India. Castor seed is grown both as rabi and kharif crop.

Tea: Tea cultivation is an example of plantation agriculture. It is also an important beverage crop introduced in India initially by the British. Today, most of the tea plantations are owned by Indians. The tea plant grows well in tropical and sub-tropical climates endowed with deep and fertile well-drained soil, rich in humus and organic matter. Tea bushes require warm and moist frost-free climate all through the year. Frequent showers evenly distributed over the year ensure continuous growth of tender leaves. Tea is a labour intensive industry. It requires abundant and skilled labour. Tea is processed within the tea garden to



Fig 6.2 Tea plantation

restore its freshness. Major tea producing states are in the hill regions of Assam, West Bengal, Tamil Nadu and Kerala. India is one of the leading producer as well as exporter of tea in the world.

Coffee: India produces about four per cent of the world's coffee production.



Fig 6.3 Coffee plant

Indian coffee is known in the world for its good quality. The Arabica variety initially brought from Yemen is produced in the country. This variety is in great demand all over the world. Initially its cultivation was introduced on the Baba Budan Hills and even today its cultivation is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu.

Horticulture Crops: India is one of the leading producer of fruits and vegetables in the world. Tropical and

temperate fruits like mangoes of Maharashtra, Andhra Pradesh, Uttar Pradesh and West Bengal; oranges of Nagpur and Cherrapunjee (Meghalaya); bananas of Kerala, Mizoram, Maharashtra and Tamil Nadu; lichi and guava of Uttar Pradesh and Bihar; pineapples of Meghalaya; grapes of Andhra Pradesh and Maharashtra; apples, pears, apricots and walnuts of Jammu and Kashmir and Himachal Pradesh are in great demand the world over.

India produces about 1/6 of the world's vegetables. It is an important producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato.

Non-Food Crops

Rubber: It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas. It requires moist and humid climate with rainfall of more than 200 cm. and temperature above 25°C. Rubber is an important industrial raw material. It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya. India is among the world's leading natural rubber producers.

Fibre Crops: Cotton, jute, hemp and natural silk are the four major fibre crops grown in India. The first three are derived from the crops grown in the soil, the latter is obtained from cocoons of the silkworms fed on green leaves specially mulberry. Rearing of silk worms for the production of silk fibre is known as sericulture.

Cotton: India is believed to be the original home of the cotton plant. Cotton is one of the main raw materials for cotton textile industry. India is the third-largest producer of cotton in the world. Cotton grows well in drier parts of the black cotton soil of the Deccan plateau. It requires high temperature, light rainfall

or irrigation, 210 frost-free days and bright sunshine for its growth. It is a kharif crop and requires 6 to 8 months to mature. Major cotton-producing states are – Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.

Jute: It is known as the golden fibre. Jute grows well on well-drained fertile soils in the flood plains where soils are renewed every year. High temperature is required during the time of growth. West Bengal, Bihar, Assom, Odisha and Meghalaya are the major jute producing states. It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon. However in the recent times the market is growing for ecofriendly, jute.

- The following table shows some of the details of crops and important states which produce most. Not all information is given. Refer an atlas and discuss with your teacher to complete the information in the table.
- Mark each crop using a particular (•, ○, ◆, ■) symbol in a India (political) map and discuss in the classroom why only those states account for major share in production in specific crops.

Sl. No.	Crop	Top states in 2011 and how much they contribute to total grains production (each in % to total)	Reasons both natural and other factors that account for major share of production
1	Paddy	West Bengal (16), Punjab (13), Uttar Pradesh (12), Andhra Pradesh (12) Odisha (8)	
2	Wheat	Uttar Pradesh (34), Punjab (19), Haryana (13), Madhya Pradesh (10) Rajasthan (9)	
3	Millets and ther cereals	Maharashtra (19), Karnataka (18), Rajasthan (12), Andhra Pradesh (10), Uttar Pradesh (9)	
4	Maize	Karnataka (18), Andhra Pradesh (17), Maharashtra (11), Bihar (9)	
5	Pulses	Madhya Pradesh (29), Maharashtra (16), Uttar Pradesh (13), Andhra Pradesh (10), Karnataka (8)	
6	Sugarcane	Uttar Pradesh (40), Maharashtra (22), Karnataka (10), Tamil Nadu (10)	
7	Oil seeds	Madhya Pradesh (31), Rajasthan (18), Gujarat (13), Maharashtra (11) and Andhra Pradesh (6)	
8	Cotton	Gujarat (33), Maharashtra (24), Andhra Pradesh (13), Punjab (8) Haryana (8)	

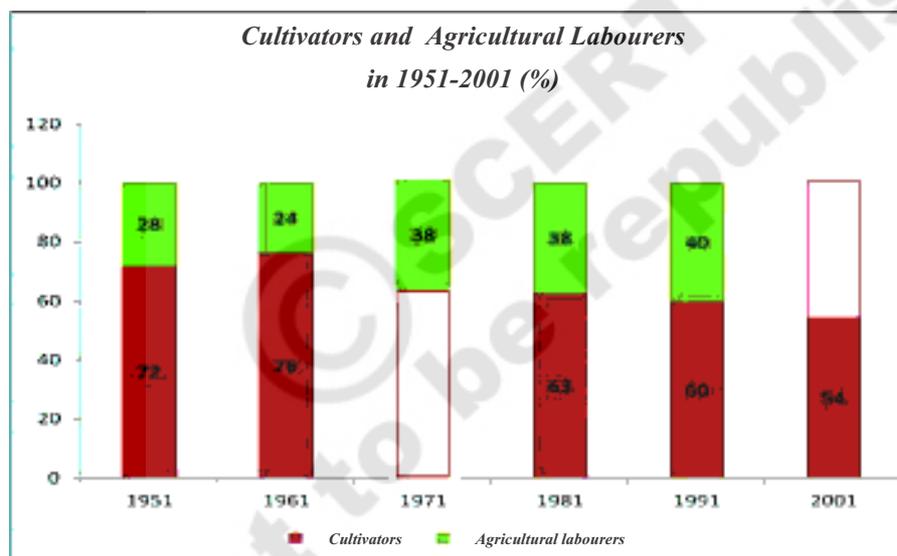
Importance of Agriculture

In this part, we shall try to look agriculture from an overall view for the entire country. We would try to understand the changes that have occurred since the time of Independence to the present and the challenges that we face today.

The food security of a nation depends on agriculture and this sector ensures food security to the nation. A variety of raw materials required for industries are cultivated on farms. Wheat, paddy and other food crops are cultivated by farmers. Agriculture is a major source of livelihood for millions - giving employment to a large section of people.

More than half the proportion of workers in India is working in agriculture and its related activities. Also among men and women, it is the women who get employment opportunities in agriculture. Nearly 70 per cent of working women are engaged in agriculture.

Two kinds of people are engaged in farming – agricultural labourers and cultivators.



Cultivators are those farmers who have some land and also use land belonging to others for cultivation. Agriculture labourers are those who are landless labourers who work on others lands.

Since population also increases with time we look at the absolute numbers, the number of people working in agriculture increased from 97 million in 1951 to 234 million in 2001. Hence the number of agricultural labourers who are seeking a livelihood in rural areas has increased, given the fact that they have very little or no land to cultivate. What are the other alternative job opportunities available to them? This is a serious challenge.

- Complete the bar diagram above and find out the percentage of cultivators and agricultural labourers in 1971 and 2001 respectively.
- Discuss the differences between self employment and looking for work using examples from your region.
- Do you think that some families who were earlier cultivators are becoming agricultural labourers now? Discuss.

Indian farmers are mostly small landholders

One distinct feature of Indian agriculture is the small land holdings. Most farmers work with only a small plot of land. Look at the following table.

Table 1: Number of farmers and land they possess in India (2010-2011)

Type and amount of land operated by farmers	How many?		How much land they operate with?		Average amount of land operated by farmers (acres)
	Number (lakhs)	%	Land in lakhs acres	%	
Marginal up to 2.5 acrs	924	?	875	?	?
Small 2.6 to 5 acrs	247	?	868	?	?
Semi-medium 5.1 to 10 acrs	138	10.0	927	?	6.7
Medium 10.1 to 25 acrs	59	4.3	833	?	14.2
Large More than 25acrs	10	?	429	?	?
Total	1378	100.00	3932	?	?

- Complete the data in the table and the explanation in the following passage below.

Majority of farmers operate only small plots of lands. A typical Indian marginal farmer has only about acres to cultivate. There are 924 lakh farmers so that% of all farmers are marginal. If we add up the number of small and marginal farmers they form ...% of all farmers. However even though in percentage terms medium and large farmers is small the number in absolute terms is large.lakh farmers can be together considered to be in this group. They have a powerful voice in rural areas. This group of large and medium farmers together operate% of the land. Each large farmer for example on an average operatesacres of land. Compare this with each marginal farmer who operates on an averageacres of land. This inequality in distribution of land explains the inequalities in opportunities that they experience, the poverty or growth opportunity that they face.

- In your opinion, what would be the minimum amount of land required to do viable farming which would give a farmer a decent earnings. How many farmers in the above table are doing viable farming?
- Why only a small section of farmers have a powerful voice?

Agricultural production depends on natural factors

Agriculture crops depend on seasons and natural resources such as soil and water and sunshine for cultivation. Temperature and humidity conditions are important. Some crops can be cultivated only in specific season regardless of the availability of water and other inputs. Therefore in any region different crops are grown in different seasons. When you visit the '*Santha*'; fruit or vegetable market in different seasons you would notice these differences.

There are also many differences in the natural conditions between different regions in the country. You have looked at the differences between three different regions in Andhra Pradesh i.e Rayalaseema, Telangana and Coastal Andhra. These are differences across regions.

Besides land reforms such as abolition of Zamindari, Land ceiling Act, the newly formed Indian government also initiated other important policy changes. These can be seen in three phases – 1950-1965, 1966-1990 and Post 1991. Each phase signifies different facets of Indian agriculture.

The First Phase - Increasing Irrigation and Building Dams

Between 1950 and 1965 the Indian Government invested heavily on irrigation and power projects. It was hoped that this would raise crop production and solve the problem of food shortage. Big dams for irrigation and electricity generation like Bhakra-Nangal (Punjab), Damodar Valley (West Bengal), Hirakund (Odisha), Nagarjun Sagar (Andhra Pradesh), Gandhi Sagar (Madhya Pradesh) were constructed.

The area under cultivation and the irrigated area both went up, and crop production increased. During this phase, government promoted the formation of farmer cooperatives and also appointed agricultural extension officers to provide technical support to farmers. A variety of initiatives especially for small farmers were taken at the mandal or block level through community development programmes.

Despite these developments food shortages continued. In 1962-65, India faced two wars and the government spent a lot of money on the war. Also 1965 and 1966 were met with little rain and were declared as drought years. This led to decline in the production of food grains and forced the government to import food grains.

- Use an atlas of India to find the locations of the above mentioned dams and mark them on a map of India. Also label the names of the major rivers on which these dams were built.

This situation of depending on other countries for food requirements worried the Indian leaders. The Indian Government began to change the policy towards agriculture and was called as Green Revolution.

Second phase (1966-1990) – Green Revolution and its spread

The government introduced new kind of seeds to the Indian soil which were invented in various agricultural research institutions in India and from other countries. This marked the second phase of agriculture development. These new seeds are known as High Yielding Varieties. It was also accompanied by use of chemical fertilizers, machinery such as tractors and others besides irrigation facilities. A variety of cooperative banks were set up in rural areas to provide

credit to farmers so that they buy raw materials such as seeds, fertilizer and pesticides, machinery required for modern farming.

Dryland Agriculture

A little over 40% of the total cultivable land in India is irrigated. This percentage can only go up to a maximum of 55%. The remaining 45% cannot easily be irrigated - it would be very difficult and expensive. Thus these areas must depend solely on rainfall. These are the drylands in our country.

Some of the main crops grown in these areas are jowar, bajra, groundnut, ragi, cotton, soyabean, tur and gram.

Dryland areas are most suitable for certain crops. For example 84% of the pulses grown in the entire country are from these areas. However the production of pulses is not increasing and they are becoming more and more expensive.

What should then be done to increase production in such dryland areas? Unlike the cultivation of HYVs in irrigated lands, dryland farming poses different challenges. Conserving rainfall that the area receives is the first step. There are several ways that people can stop rain water from quickly running off, so that it can soak into the ground, and recharge the ground water. This is done through watershed development programmes which include afforestation, bunding, building check-dams and tanks. Also, fertility of the soil needs to be raised by adding organic material (compost and manure).

Farmers who grow crops like gram, tur, jowar, ragi, soyabean, groundnut, and cotton also need support. They may need: new varieties of seeds suitable for different regions, knowledge about the best ways of growing a mix of crops on the same land, loans to purchase inputs, support prices for these crops, etc. Farming of HYVs has now been adopted in dryland regions, too.

- In which areas were the new methods of agriculture first tried? Why was the whole country not covered?
- Why are different methods necessary for dryland areas?

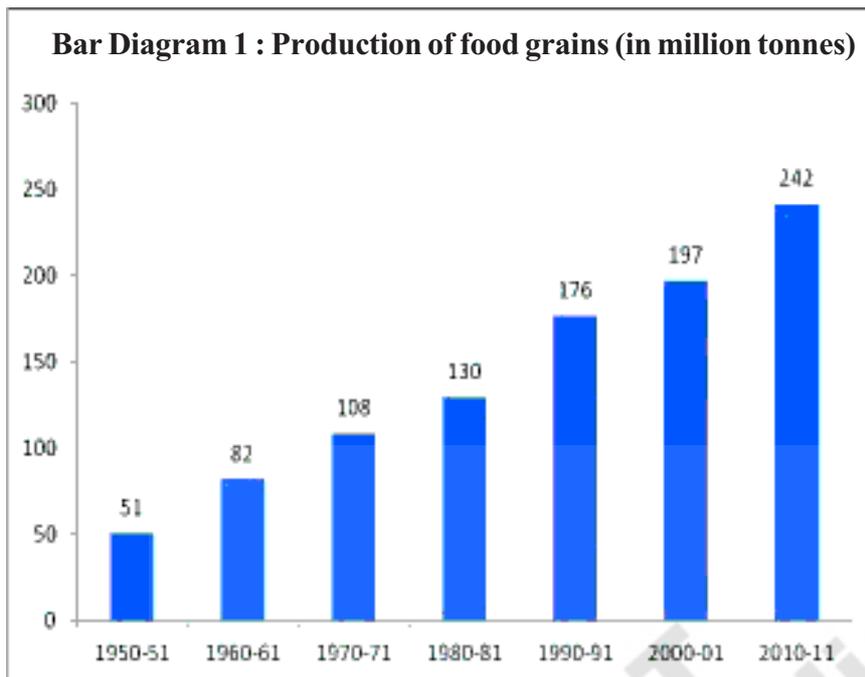
The Effects of the Green Revolution

Increase in Production

The spread of HYVs to large parts of the country and to newer crops have led to a significant increase in crop production in the country. India became self-sufficient in food grains.

Due to the rise in food grains production, it was no longer necessary to import food grains from other countries. Today food materials constitute only about three per cent of India's imports (Bar Diagram). The production of food grains has increased five times over the last five decades - from 51 to 242 million tonnes.

Also a large stock of food grains has built up with the government through Food Corporation of India (FCI) that could be used in case of shortage and can



avoid drought or famine-like situations in the country. The procurement of food grains also used to supply food grains to inaccessible areas. In the year 1967, the total food grain stock with the government was only 19 lakh tonnes. By the year 2010-11 it increased to 220 lakh tonnes, about one tenth of total food grains produced in India.

The green revolution

helped farmers to produce higher level of foodgrains and non-foodgrains on the same plot of land they had. There was no major increase in the land used for cultivation. In 1960s, a farmer was able to produce on an average only 287 kilograms of foodgrains be it paddy or wheat on one acre of cultivable land. Today the same farmer is able to produce nearly 800 kilograms of foodgrains per acre of cultivable land.

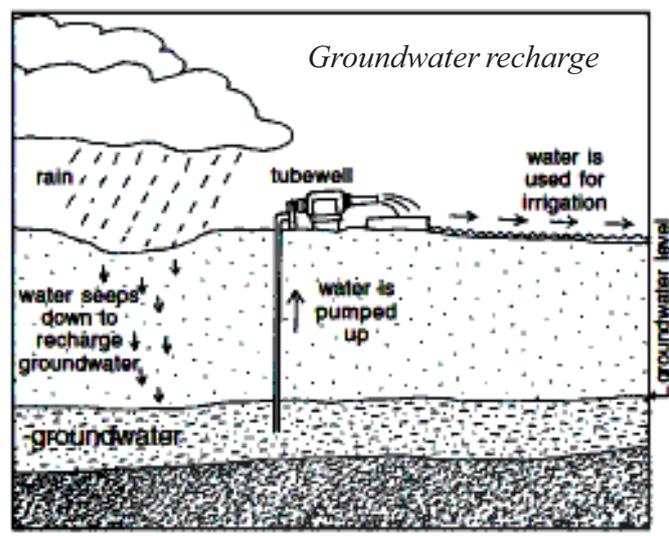
- How increase in buffer stock would help to avoid situations of drought and famines?
- How farmers were able to raise higher amount of food grains on the same plot of land over the years?
- In which decades the food grains yields grow fast? What could be probable reasons for this?

Environmental Effects

The Green Revolution has brought in several environmental imbalances. As mentioned earlier, it was first introduced in the northern states of Punjab, Haryana and parts of Uttar Pradesh. We shall study some of the environmental problems of these areas. In these states most farmers have shifted to cultivation of HYVs of rice and wheat, which require plenty of water.

Water problems

The main source of irrigation is tubewells using groundwater. As the number of tubewells increased over the years the groundwater level fell rapidly. Groundwater level can be maintained as long as the use of groundwater is less than the groundwater recharge. Groundwater recharge is a natural process and happens each year through rainfall or flows from canals, streams and rivers. Water from



these sources slowly flows through the various soil layers and collects as groundwater. The problem starts when the groundwater use through tubewells, etc., is more than the groundwater recharge. In other words, what is used up is more than what flows into the groundwater pool, so that the level of groundwater of an area falls. A fall in groundwater level would mean that less

groundwater is available for future use.

The problem of falling groundwater level is faced by 10 out of 12 districts of Punjab and 9 out of 12 districts of Haryana. Experts fear that Punjab agriculture is in danger due to environmental damage over the past three decades.

Fertilizer Problems

Manure and compost contain humus and living organisms that slowly release minerals as they decompose. Chemical fertilizers provide minerals (usually nitrogen, phosphorus and potassium) which dissolve in water and are immediately available to plants, but may not be retained in the soil for long. They may be leached from the soil and pollute groundwater, rivers, and lakes. Chemical fertilizers (as well as pesticides) can also kill bacteria and other organisms in soil. This means that some time after their use, the soil will be less fertile than ever before. Without micro-organisms, the soil will be will dependent on frequent addition of more and more chemical fertilizers. The variety of nutrients, which are normally produced by micro-organisms, may also be reduced. Thus, in many areas, the Green Revolution has actually resulted in a loss of soil fertility and ever- increasing costs to farmers.

Environmental resources like soil fertility and groundwater are built up over many-many years. Once destroyed it is very difficult to restore them. Similar environmental imbalances are being faced by other regions with large-scale use of HYVs. Given that agriculture is heavily dependent on natural resources, how do we take care of the environment to ensure future development of agriculture? This is a controversial question which is currently being debated.

What is fertile soil?

To be fertile, soil has to provide the roots of plants with the right amounts of water, minerals, and air. To do this, it must have the correct texture and the correct composition. Soil is composed of mineral particles (which come from the breakdown of rocks) as well as organic components (which are, or have come from living organisms). To be available to roots, the minerals must be dissolved in the water.

Third Phase (1990s to the present) – Post Reform Agriculture

During 1967 to 1991 Indian farmers sold their produce to markets within the country and to the government through the FCI. Also, people were dependent for their food purchases on markets within the country. Foreign trade in farm products was not allowed. Export of most farm products, especially foodgrains, was banned. Imports were also not allowed. Only the government had the right to import in case of scarcity.

We have also seen that the government supported farmers through the supply of cheap farm inputs and by offering to buy farm products at minimum support prices. Thus, the Indian farmers, produced for markets within the country, and required government's support to earn a reasonable income from farming.

- Why did not the Indian government allow farmers to export foodgrains during the Green Revolution years?
- Why should government ban exports / import? How does this policy help Indian farmers?

Foreign Trade in Farm Products

As pointed out earlier, government took many protective measures in agriculture prior to 1991. There has been a significant change in agriculture policy in India. Farm products are exported from and imported into India more than in the past.

Changes in farm trade policy are not taking place in India alone. Many developing countries in Asia, Africa and South America have made similar changes in the policies. This is because the developed countries are putting pressure on them to allow foreign trade. These developed countries want to sell their surplus farm products in the developing countries that have a large number of buyers.

With the foreign trade policy changes, many crops can now be traded. For instance, farmers can now export vegetables and fruits, sugar and jaggery. Similarly, import of cotton, rubber, pulses, oilseeds are freely allowed. However, farmers cannot export food grains. Since food grains are the most important food item, the Indian government has been cautious to allow trade in food grains. Only the government can do so, if it wishes.

Organic Farming – The experience of a farmer in Odisha

In order to overcome the ill effects of Green Revolution, farmers in India have begun to adopt different farming practices. Let us look at an example. Aged 80, Natwarbhai is a resident of Narishu village, near Niali in Cuttack district, Odisha. A retired schoolteacher, he has been practising organic farming for the last decade or so, and swears by its potential to feed India's population. He says some of the varieties he grows yield over 20 quintals per acre, higher than the so-called 'high-yielding' varieties that farmers around him get after using chemical fertilizers and pesticides. And he spends much less, since his main inputs are gobar, natural pesticides when occasionally needed, and family labour.

Natwarbhai was earlier a 'modern' farmer. One day, while watching a labourer spray Carbofuran (a highly toxic pesticide), he was horrified to see him stagger and collapse. Rushed for treatment, the worker survived, but not Natwarbhai's faith in the new agriculture. Especially after the labourer told him: "I could not breathe, my head was reeling"; and especially after, having buried the remaining stock of Carbofuran in a pit in his fields, Natwarbhai "saw dead snails, snakes, and frogs floating in the water that had accumulated there. "I immediately wondered what would be happening to the earthworms and micro-organisms that I knew kept the soil alive."

Natwarbhai switched to organic inputs, but with the high yielding varieties that the them all, noting down their names, characteristics and productivity.

Source: Adapted from Ashish Kothari, A New Rice Every day? The Hindu, December 9, 2012.

- Can organic farming produce enough food for all?
- How is organic farming especially suited for small and marginal farmers? Discuss.

The developed countries are however constantly putting pressure on India to allow greater imports of crops produced in their countries.

Foreign trade could cause farmers income to fluctuate a lot. In certain years and for certain crops the farmers might gain from exports. In other years, farmers could lose because of cheap imports and fall in prices of farm products. Small farmers without much savings will not be able to bear this loss. They will get caught in debt trap and become poorer. The government has to be very careful in allowing trade in farm products.

Why Government buys and stores some grain?

A lot of grain comes into the market at harvest time. One problem farmers faced was the low price of grain during this time. This means farmers were not able to sell grain at a high enough price to be able to repay their loans and continue using the new farming methods. They need to be protected from traders who might try to purchase the grains at low prices.

Therefore the government decided to set a Minimum Support Price (MSP). A Minimum Support Price is a price at which the farmers can sell their grain, if they want, to the government. The government sets the MSP so as to cover the cost of cultivation and allow a little bit of profit to the farmer. Because of the MSP, farmers are not forced to sell their grains at cheaper prices to the traders.

The Food Corporation of India (FCI) was formed by the government to purchase food grains from the farmers and store them. It keeps stockpiles and supplies grain to ration shops and other government schemes (e.g. for midday meals in schools).

Key words

1. Chemical fertiliser
2. Green revolution
3. Organic material
4. Dryland agriculture
5. Modern farming practices
6. Foreign trade policy

Improve your learning

1. Name one important beverage crop and specify the geographical conditions required for its growth.
2. The land under cultivation has got reduced day by day. Can you imagine its consequences?
3. On an outline map of India show millet producing areas.
4. What is a Minimum Support Price (MSP)? Why is a MSP needed?
5. Explain all the ways the Indian government supported the Green Revolution.
6. Do you think it is important for India to be self-sufficient in food grains production? Discuss.
7. How is dry land agriculture different from agriculture in other areas?
8. Can you recall the incident such as pesticides being found in soft drinks? How is this related to the use of pesticides? Discuss.
9. Why is chemical fertilizer used in new farming methods? How could use of fertilizers make soil less fertile? What are the alternative ways of enriching soil?
10. How has the Green Revolution in some areas resulted in short-term gains but long-term losses to farmers??
11. What could be the effects of foreign trade on farmers' income?
12. In earlier classes we have studied about land distribution. How does the following image reflect this idea. Write a paragraph about this in the context of Indian agriculture.



Project

Which crops are grown in your area? Which of these are grown from HYV seeds and which ones are grown from traditional seeds? Compare the HYV seeds and the traditional seeds with regard to each of the following points:

- | | | |
|----------------------|-------------------------------|----------------|
| (a) duration of crop | (b) number of times irrigated | (c) production |
| (d) fertilisers | (e) diseases | (f) pesticides |

Map - 1 Paddy producing states in India



PART - I

Basic necessities for setting up factories

Industries are an essential aspect of a nation's development. You may recall what you studied in class VII about various kinds of manufacturing processes. The story of the paper industry was one example. You would have noticed how factories work and about the process of manufacturing whether at home, in a small shed or in a large factory. In this chapter we will learn how India has grown industrially over the years and the role of government initiatives in promoting industries.

India's main industrial activity for a long time was handicrafts particularly textile goods. Under the colonial rule, barring a few industries, India could not develop a sound industrial base. It did not have the capacity to produce a wide range of goods. Most industrial products had to be imported. After 1947, India began many initiatives to promote industrial activities in the country. One important driving force behind this idea was to become self sufficient in meeting our needs and to make the country an industrially developed nation.

For factories you need machines. A modern factory manufacturing cloth, for instance, would use loom that run on electricity as compared to hand looms. These looms produce a large quantity of cloth in a short time. Similarly there are complex machines to produce cement, cars, edible oils etc. To run these machines, all factories require a source of power which is usually electricity. Hence factories require machines and electricity to run them.

Further, all factories need raw materials from which goods can be produced. For example, steel is required to produce cycles. There are some factories which produce steel sheets from iron and coal. Other factories use these sheets to manufacture steel tubes. Finally, the cycle factory uses these steel tubes to manufacture the steel frame for the cycle. Note that the basic sources for steel are raw materials like iron and coal. As in the above example, minerals and ores form the basic source from which various raw materials required by factories are produced.

A large number of goods are produced by factories that are used by other factories. These are intermediate steps in the chain of production by many factories before we can get consumer goods that are directly used by people.

Transportation is needed to bring raw materials to factories and transfer finished goods from them. Truck, railway, and ship are means of transport. For this you require some essential facilities such as: a system of roads which are in good

- Can you make a list of products produced by factories for other factories?
- Iron is the basic requirement for a large number of goods produced by various factories. Explain this with examples that you see around.
- Have you seen machines used in a factory? Make a collage of different kinds of machines that are used.
- Make a chart to show how petroleum is the basic requirements for a large number of products.
- Discuss what is meant by the word 'basic'. What are the basic necessities for industries?
- At the time of independence what were the objectives that were desired to be achieved through industrialization?

condition and which link a large number of towns and villages in the country; a system of transporting material by rail ; ports which can accommodate a large number of ships and also organize the loading and unloading from them.

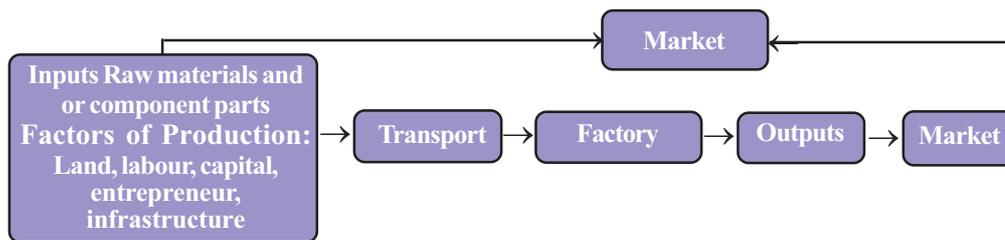
Hence, for industrialization i.e. to develop a large number of different factories, we have certain basic requirements like machines, electricity, minerals and ores, and transport facilities.

Factories producing these essential goods - machines, electricity, minerals and ores, and

transport facilities - are basic industries. Basic industries produce essential goods that can form a base to support a large variety of factories.

Industrial Location

Industrial locations are complex in nature. These are influenced by availability of raw material, labour, capital, power and market etc. It is rarely possible to find all these factors available at one place. Consequently, manufacturing activity tends to locate at the most appropriate place where all the factors of industrial location are either available or can be arranged at lower cost. After an industrial activity starts, urbanisation follows. Sometimes, industries are located in or near the cities. Thus, industrialisation and urbanisation go hand in hand. Cities provide markets and also provide services such as banking, insurance, transport, labour, consultants and financial advice etc. to the industry. Many industries tend to come together to make use of the advantages offered by the urban centres known as agglomeration economies. Gradually, a large industrial agglomeration takes place. In the pre-Independence period, most manufacturing units were located in places from the point of view of overseas trade such as Mumbai, Kolkata, Chennai etc. Consequently, there emerged certain pockets of industrially developed urban centres surrounded by a huge agricultural rural hinterland.



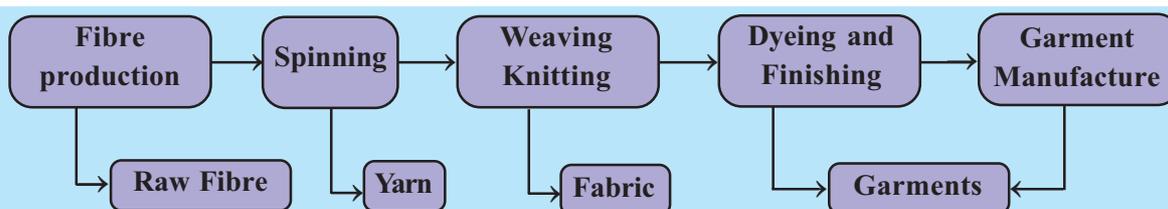
Activity

- Collect the wrappers of tea packets and tooth paste. Read the wrappers carefully and try to relate to the question below.
_____ can be considered as a product of agro based industry. _____ can be considered a product of mineral based industry.
- Raw material for the tooth paste _____ and _____ are produced in another industry. That industry is called key or basic industry. Whereas the tooth paste is a consumer goods and the industry producing such goods is called consumer goods industry.
- The ownership of industries could be lying with individuals or groups of individuals such as _____ (for the tea packets) and _____ (tooth paste). Such an industry is called a private sector industry whereas if the ownership belongs to the government, it will be called as public sector industry. Two examples of public sector industries are _____ and _____.
- Some industries are also owned by large number of people who supply raw materials (milk / sugarcane) or supply their labour (coir) pool their resources to run them. Such industries is called cooperative industries.

Agro Based Industries

The industries which are based on agricultural products are called agro based industries.

Textile Industry: The textile industry occupies unique position in the Indian economy, because it contributes significantly to industrial production (14 per cent), employment generation (35 million persons directly - the second largest after agriculture) and foreign exchange earnings (about 24.6 per cent). It contributes 4 per cent towards GDP. It is the only industry in the country, which is self-reliant and complete in the value chain i.e., from raw material to the highest value added products.

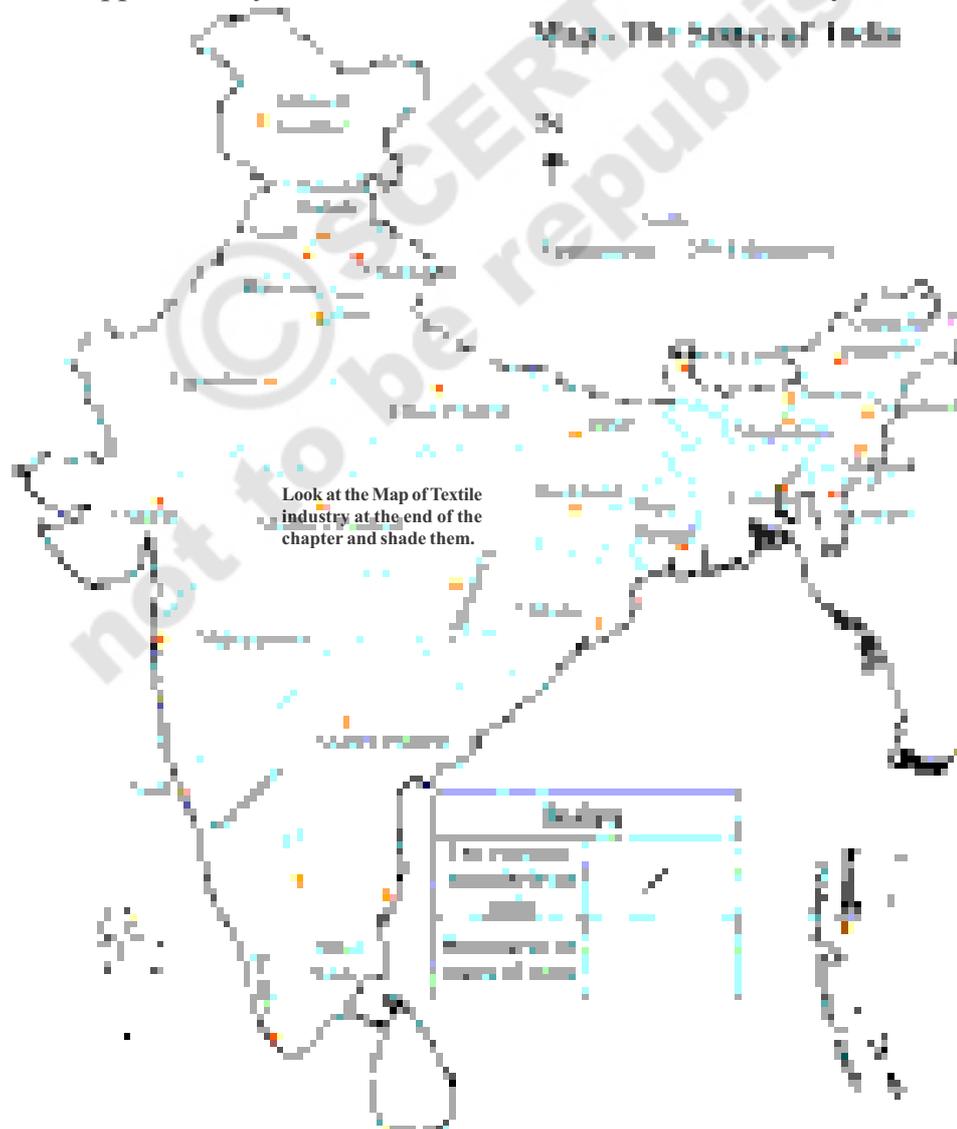


Value addition in the textile industry

Cotton Textiles: In ancient India, cotton textiles were produced with hand spinning and handloom weaving techniques. After the 18th century, power-looms came into use. Our traditional industries suffered a setback during the colonial period because they could not compete with the mill-made cloth from England.

Today, there are nearly 1600 cotton and human made fibre textile mills in the country. About 80 per cent of these are in the private sector and the rest in the public and cooperative sectors. Apart from these, there are several thousand small factories with four to ten looms.

In the early years, the cotton textile industry was concentrated in the cotton growing belt of Maharashtra and Gujarat. Availability of raw cotton, market, transport including accessible port facilities, labour, moist climate etc. contributed towards its localisation. This industry has close links with agriculture and provides a living to farmers, cotton ball pluckers and workers engaged in ginning, spinning, weaving, dyeing, designing, packaging, tailoring and sewing. The industry by creating demands supports many other industries, such as, chemicals and dyes, mill stores,



- The first successful textile mill was established in Mumbai in 1854.
- When the two world wars were fought in Europe, India was a British colony. There was a demand for cloth in U.K. hence, they gave a boost to the development of the cotton textile industry.

packaging materials and engineering works.

While spinning continues to be centralised in Maharashtra, Gujarat and Tamil Nadu, weaving is highly decentralised to provide scope for incorporating

traditional skills and designs of weaving in cotton, silk, zari, embroidery etc. India has world class production in spinning, but weaving supplies low quality of fabric as it cannot use much of the high quality yarn produced in the country. Weaving is done by handloom, powerloom and in mills.

The handspun khadi provides large scale employment to weavers in their homes

- Why did Mahatma Gandhi lay emphasis on spinning yarn and weaving khadi?

as a cottage industry. India exports yarn to Japan. Other importers of cotton goods from India are U.S.A., U.K., Russia, France, East European countries, Nepal, Singapore, Sri Lanka, and African countries.

Jute Textiles: India is the largest producer of raw jute and jute goods and stands at second place as an exporter after Bangladesh. There are about 70 jute mills in India. Most of these are located in West Bengal, mainly along the banks of the Hugli river 98 km long and 3 km wide.

Factors responsible for their location in the Hugli basin are: proximity of the jute producing areas, inexpensive water transport, supported by a good network of railways, roadways and waterways to facilitate movement of raw material to the mills, abundant water for processing raw jute, cheap labour from West Bengal and adjoining states of Bihar, Odisha and Uttar Pradesh. Kolkata as a large urban centre provides banking, insurance and port facilities for export of jute goods.

Do you know?

The first jute mill was set up near Kolkata in 1859 at Rishra. After Partition in 1947, the jute mills remained in India but three-fourth of the jute producing area went to Bangladesh (erstwhile East Pakistan).

The jute industry supports 2.61 lakh workers directly and another 40 lakhs small and marginal farmers who are engaged in cultivation of jute and mesta. Many more people are associated indirectly.

Challenges faced by the industry include stiff competition in the international market from synthetic substitutes and from other competitors like Bangladesh, Brazil, Philippines, Egypt and Thailand. However, the internal demand has been on the increase due to the Government policy of mandatory use of jute packaging. To stimulate demand, the products need to be diversified. In 2005, National Jute Policy was formulated with the objective of increasing production, improving quality,

ensuring good prices to the jute farmers and enhancing the yield per hectare. The main markets are U.S.A., Canada, Russia, United Arab Republic, U.K. and Australia. The growing global concern for environment friendly, biodegradable materials, has once again opened the opportunity for jute products.

Sugar Industry: India stands second as a world producer of sugar but occupies the first place in the production of jaggery and khandsari (The raw material used in this industry is bulky, and in haulage its sucrose content reduces). There are over 460 sugar mills in the country spread over Uttar Pradesh, Bihar, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh and Gujarat along with Punjab, Haryana and Madhya Pradesh. Sixty per cent mills are in Uttar Pradesh and Bihar. This industry is seasonal in nature so, it is ideally suited to the cooperative sector. Can you explain why this is so?

- Where should the sugar and jaggery mills be ideally located?

In recent years, there is a tendency for the mills to shift and concentrate in the southern and western states, especially in Maharashtra. This is because the cane produced here has a higher sucrose content. The cooler climate also ensures a longer crushing season. Moreover, the cooperatives are more successful in these states.

Major challenges include the seasonal nature of the industry, old and inefficient methods of production, transport delay in reaching cane to factories and the need to maximise the use of baggase.

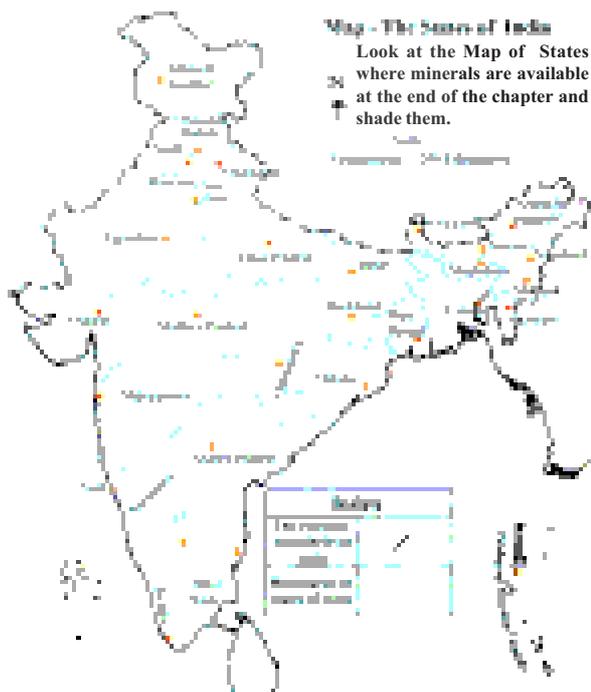
Mineral based Industries

Industries that use minerals and metals as raw materials are called mineral based industries. Can you name some industries that would fall in this category?

The minerals are widespread in Indian subcontinent based on their geological structures. The minerals essential for iron and steel industries are located predominantly in Peninsular India.

Therefore iron and steel plants are also distributed in the same places as the minerals are located. The industry is dependent on power resources which are equally essential for the operation of industries. Conventional energy resources of coal, petroleum, gas are also available in the same region which further help in mineral based localisation of industries.

Iron and Steel Industry: The iron and steel industry is the basic industry since all the other industries heavy, medium and light, depend on it for their machinery. Steel is needed to



manufacture a variety of engineering goods, construction material, defence, medical, telephonic, scientific equipment and a variety of consumer goods.

Make a list of all such goods made of steel that you can think of production and consumption of steel is often regarded as the index of a country's development. Iron and steel is a heavy industry because all the raw materials as well as finished goods are heavy and bulky entailing heavy transportation costs. Iron ore, coking coal and lime stone are required in the ratio of approximately 4 : 2 : 1. Some quantities of manganese, are also required to harden the steel. Where should the steel plants be ideally located? Remember that the finished products also need an efficient transport network for their distribution to the markets and consumers.

Today with 32.8 million tons of steel production, India ranks ninth among the world crude steel producers. It is the largest producer of sponge iron. In spite of large quantity of production of steel, per capita consumption per annum is only 32 kg.

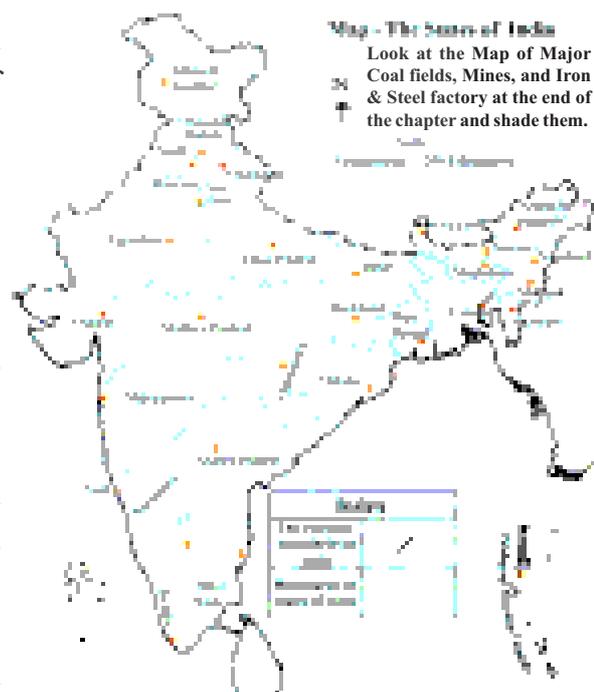
- Why is the per capita consumption of steel so low in India?

Aluminium Smelting: Aluminium smelting is the second most important metallurgical industry in India. It is light, resistant to corrosion, a good conductor of heat, malleable and becomes strong when it is mixed with other metals. It is used to manufacture aircraft, utensils and wires. It has gained popularity as a substitute of steel, copper, zinc and lead in a number of industries.

There are 8 aluminium smelting plants in the country located in Odisha (Nalco and Balco), West Bengal, Kerala, Uttar Pradesh, Chattisgarh, Maharashtra and Tamil Nadu. In 2004, India produced over 600 million tons of aluminium.

Bauxite, the raw material used in the smelters is a very bulky, dark reddish coloured rock. Regular supply of electricity and an assured source of raw material at minimum cost are the two prime factors for location of the industry.

Chemical Industries: The Chemical industry in India is fast growing and diversifying. It contributes approximately 3 per cent of the GDP. It is the third largest in Asia and occupies the twelfth place in the world in term of its size. It comprises both large and small scale manufacturing units. Rapid growth has been recorded



in both inorganic and organic sectors. Inorganic chemicals include sulphuric acid (used to manufacture fertilisers, synthetic fibres, plastics, adhesives, paints, dyes stuffs), nitric acid, alkalies, soda ash (used to make glass, soaps and detergents, paper) and caustic soda. These industries are widely spread over the country. Why do you think it is so?

Organic chemicals include petrochemicals, which are used for manufacturing of synthetic fibers, synthetic rubber, plastics, dye-stuffs, drugs and pharmaceuticals. Organic chemical plants are located near oil refineries or petrochemical plants.

The chemical industry is its own largest consumer. Basic chemicals undergo processing to further produce other chemicals that are used for industrial application, agriculture or directly for consumer markets. Make a list of the products you are aware of.

Fertiliser Industry: The fertiliser industry is centred around the production of nitrogenous fertilisers (mainly urea), phosphatic fertilisers and ammonium phosphate (DAP) and complex fertilisers which have a combination of nitrogen (N), phosphate (P), and potash (K). The third, i.e. potash is entirely imported as we do not have commercially usable potash or potassium compounds in any form. India is a large producer of nitrogenous fertilisers. There are 57 fertiliser units manufacturing nitrogenous and complex nitrogenous fertilisers, 29 for urea and 9 for producing ammonium sulphate as a by product and 68 other small units produce single superphosphate. At present, there are 10 public sector undertakings and one in cooperative sector at Hazira in Gujarat under the Fertiliser Corporation of India.

After the Green Revolution the industry expanded to several other parts of the country. Gujarat, Tamil Nadu, Uttar Pradesh, Punjab and Kerala contribute towards half the fertiliser production.

Cement Industry: Cement is essential for construction activity such as building houses, factories, bridges, roads, airports, dams and for other commercial establishments. This industry requires bulky and heavy raw materials like limestone, silica, alumina and gypsum. Coal and electric power are needed apart from rail transportation.

The first cement plant was set up in Chennai in 1904. After Independence the industry expanded. Decontrol of price and distribution since 1989 and other policy reforms led the cement industry to make rapid strides in capacity, process, technology and production. There are 128 large plants and 332 mini cement plants in the country.

- Where would it be economically viable to set up the cement manufacturing units?
- The industry has strategically located plants in Gujarat that have suitable access to the market in the Gulf countries. Find out where the plants are located in other states of India. Find their names.

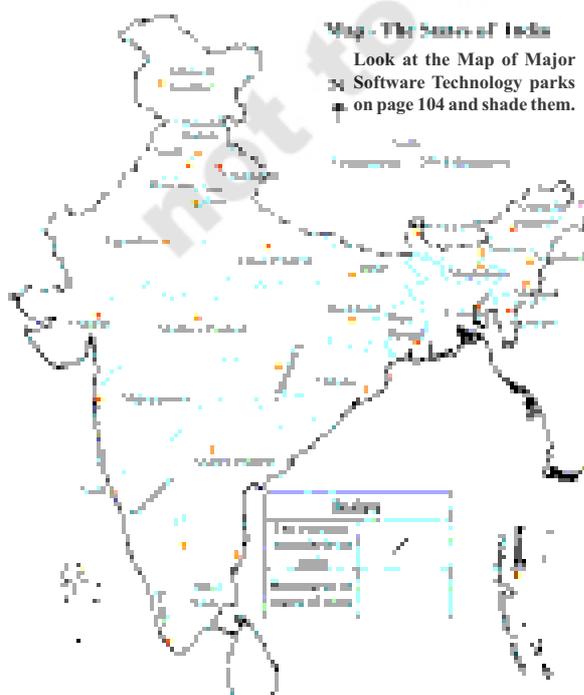
Improvement in the quality has found the produce a readily available market in East Asia, Middle East, Africa and South Asia apart from a large demand within the country. This industry is doing well in terms of production as well as export. Efforts are being made to generate adequate domestic demand and supply in order to sustain this industry.

Automobile Industry

Automobiles vehicles provide quick transport of goods and passengers. Trucks, buses, cars, motor cycles, scooters, three-wheelers and multi-utility vehicles are manufactured in India at various centres. After the liberalisation, the coming in of new and contemporary models stimulated the demand for vehicles in the market, which led to the healthy growth of the industry including passenger cars, two and three-wheelers. This industry had experienced a quantum jump in less than 15 years. Foreign Direct Investment brought in new technology and aligned the industry with global developments. At present, there are 15 manufacturers of passenger cars and multi-utility vehicles, 9 of commercial vehicles, 14 of the two and three-wheelers. The industry is located around Delhi, Gurgaon, Mumbai, Pune, Chennai, Kolkata, Lucknow, Indore, Hyderabad, Jamshedpur and Bangalore.

Information Technology and Electronics Industry

The electronics industry covers a wide range of products from transistor sets to television, telephones, cellular telecom, pagers, telephone exchange, radars, computers and many other equipments required by the telecommunication industry. Bangalore has emerged as the electronic capital of India. Other important centres



for electronic goods are Mumbai, Delhi, Hyderabad, Pune, Chennai, Kolkata, Lucknow and Coimbatore. 18 software technology parks provide single window service and high data communication facility to software experts. A major impact of this industry has been on employment generation. Upto 31 March 2005, the IT industry employed over one million persons. This number is expected to increase eight-fold in the next 3 to 4 years. It is encouraging to know that 30 per cent of the people employed in this sector are women. This industry has been a major foreign exchange earner in the last two or three years because of its fast growing Business Processes Outsourcing (BPO) sector. The

continuing growth in the hardware and software is the key to the success of IT industry in India.

In this section we have seen various types of major industries, their geographical distribution and the localising factors. However, the industries are posing environmental threat in terms of land, air and water pollution.

Fill in the following table. For some industries, you may need to discuss with the teacher.

Industry	States in which they are currently concentrated	Why they are concentrated in those states?
Chemical Industry		
Fertiliser Industry		
Cement Industry		
Automobiles industry		

PART - II

Government and Industrial Development – The Early Years

In India a few large factories are operated by government and others are by private companies. This kind of existence of industries run by both government and by private industrialists has emerged because of the policy decided by Indian Parliament.

This kind of arrangement was made keeping in view the huge amount of capital required to set up large industries at that time in India. As we saw above for a large number of industries to come up it is important to provide basic inputs. Hence it was presumed that government can invest in basic goods industries and this would also help privately-owned industries for their expansion. Also basic goods industries not only require more money but also take a long time to be set up. Private industrial groups or families were not willing to invest in such industries. For example, for setting up a power plant – production of electricity, it would require five to ten years. The government had to undertake this responsibility.

Similarly government also took the responsibility to provide infrastructure activities – building roads, maintaining transport services such as railways, roadways, airways, water supply, production of gas, oil and other petroleum products.

Government also introduced many restrictions so that small producers could be helped. Many industrial activities were allowed only for small producers. For

example, production of cloth of specific quality was restricted to handlooms. Many craft production or small scale manufacturing that people could do in their homes or workshops were not allowed to be produced in factories.

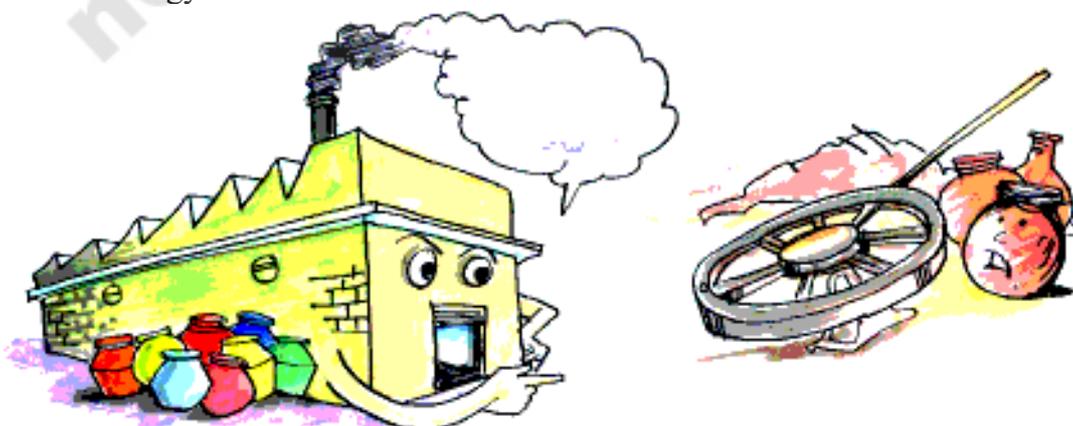
Government made laws so that the large factory owners get prior permission-license-to set up factories. This was done so that there would be better planning and co ordination. Government was wary of one industrial unit dominating in producing specific goods. In such a situation it is possible that the factory owners, when there was no competition, may charge higher price from consumers for his or her goods. The government regulated the quantity of goods produced by factories. For some goods, the price at which they can be sold was also fixed.

Emerging Problems

Over the years, many of these industrial policies became hindrance to the growth of industry. Those aspiring to set up an industrial unit were required to follow so many procedures and had to wait for many years to get the approval from the government offices. There were administrative hurdles, such as delays in processing applications, which gave rise to the unhealthy practice of bribes.

There were many instances of misuse of the licensing system. Licenses were not always given to the most efficient producers. The selection was biased in favour of people with political connections and the economically powerful. Thus, the big and influential people would corner not one but several licenses. Some of these would be in very different and unrelated products. For example, a textile manufacturer having secured a license for cement would start a cement factory, even though the firm had no special competence in the area of cement production. During the 1970s and 1980s many of the industrial families in India had licenses for production of almost all major industrial goods and few new people could get into industrial production.

All this discouraged new entrepreneurs, those who were willing to take the risk of investing money in industrial production and who would work with latest technology available.



Write an imaginary dialogue between the big factory and the potter's wheel in the context of industrilation.

When government controlled the price of certain goods, the producers of these goods felt that there was no incentive to produce more goods. Rather control on prices led to shortage of goods. For example, to buy a scooter one had to book and wait several years before the scooter was actually delivered. There was always a greater demand for scooters than was available in the market. Such shortages were also common for important basic goods like coal and cement, which in turn caused a lot of delay to production of other goods. The shortages were blamed to the government's policy of control on Indian industry, particularly its licensing policy. If only these restrictions on industry were removed, industrialists complained, production could increase and shortages would be removed.

The protective measures towards small producers also met with little success with many large producers producing goods clandestinely as small producers.

Another problem commonly noted for Indian industry was the lack of quality of some of its products. For example, compared to the topmost brand of car produced in India, there were many other car producers in the world whose cars were of better quality and also cheaper. One of the reasons for low quality was said to be the lack of competition among producers in the Indian industry. Even among industries that were run by private producers, competition was limited due to the government controls. There were controls on opening new factories and buying new machinery. Import and export of industrial goods, including machinery and raw materials were controlled. Private manufacturers needed the government's permission (license) for all such activities. Prices of important industrial goods were laid down by the government, and the producer had to sell only at that price. Many people were of the view that Indian industry as a result of government's controls wasn't modernizing fast and was producing goods at high cost and not making technological improvements.

In the case of government industrial enterprises, government used to allocate a specific amount every year to operate these industries. In the long run, these were expected to become independent, generate revenue for the government. However it was the other way around for many government run factories-these were continually requiring government assistance and there was regular interference in running them. Their functioning was much below what was expected.

New Policy for Industries

In the 1990s, the country began to relook at the industrial policies till then. A new industrial policy was announced. Many activities which were earlier restricted only for the government are now allowed for the private industries.

Government also relaxed laws so that factory-made consumer goods are also imported from other countries. Many government rules were simplified to encourage industrial activities in India especially new entrepreneurs.

In order to improve the efficiency of government-owned industrial companies, government sold some of them. The financial support provided by government to

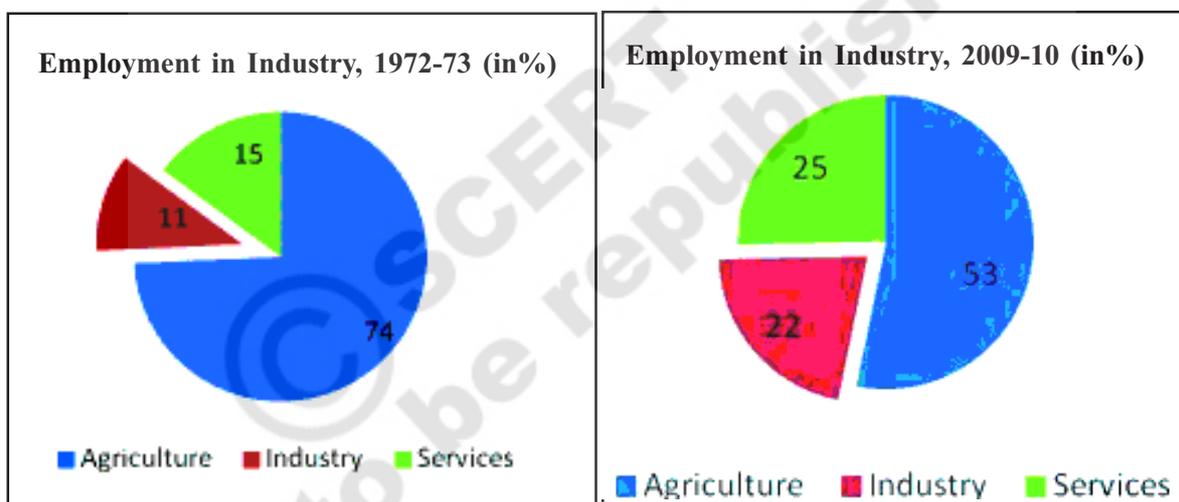
run these companies has also got reduced. These companies are also allowed to take decisions independently without interference from government.

Private or government companies from other countries are now encouraged to come to set up factories in India so that new technology would become common and more goods could be exported to markets outside the country.

Impact of Industrialisation Policies

Rise in the number of industrial units. Employment has increased but less than expected and of low paying quality. Today nearly 2 lakh large factories also called organised manufacturing units and nearly 3 crore small (also called unorganised) manufacturing units are operating in India. These industrial units, both large and small, employ nearly about one-fifth of India's 460 million workers today.

Look at the following pie charts. These show the employment in the three kinds of economic activities as percentage of total workers at that time.

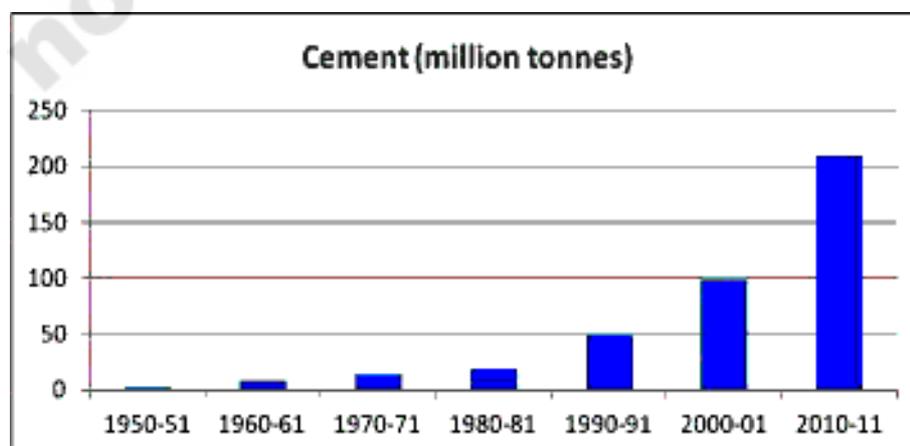
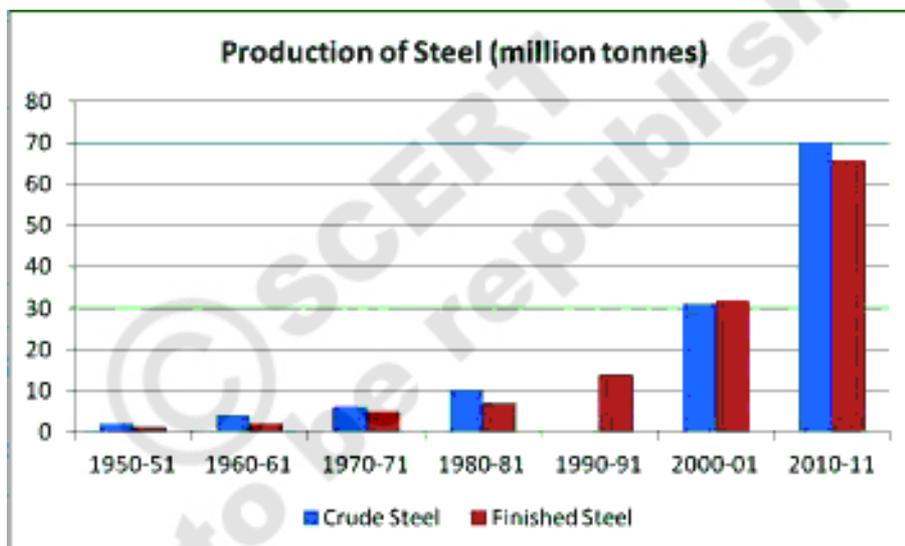


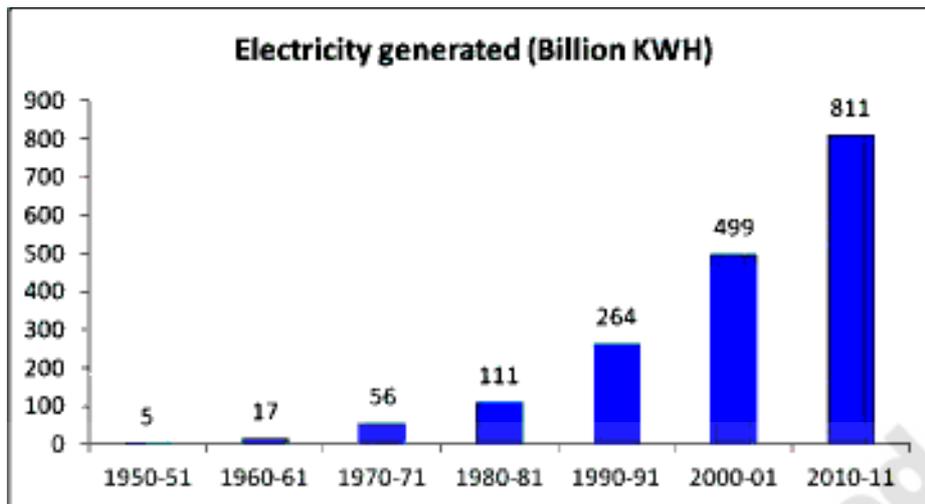
One important point in industrial development after the new policies were introduced period was that the role of small firms has declined with many big industries coming up to produce factory-based goods.

Also an important goal of industrial policies in India was to generate employment opportunities in industrial activities. Raising the proportion of people employed in factories is also generally seen as an important indicator of economic development of a country. Many laws were enacted in India to streamline industries so that they provide better salary to workers, provide safety to workers at the workplace and ensure health and medical benefits. It was envisaged that more and more industries would get established and most workers would be earning better incomes in due course. This did not happen in India. Even after six decades of India's Independence, the share of employment has not gone up as much as expected. Also a large section of workers are employed in small industrial units which generally pay a very low salary and devoid of workers safe working conditions and health benefits.

Also in contrast to the expectation, large industries began to replace workers with technology. More and more automation has taken place. This has led to almost zero additional employment in large factories.

- What are the differences in employment in the three kinds of economic activities that you notice from these pie charts?
- What is the percentage of change in employment by industry?
- Discuss with your teacher: Did we expect to see a greater change in employment by industry that did not happen?





It was not only the production of steel, cement and other important raw materials increased tremendously over the last six decades. This resulted in many other intermediate and consumer goods. Look at the following table which show the number of different transport vehicles, pump sets produced in India. You will notice that each good serve different purpose. Draw four separate bar diagrams and discuss in the class the probable impact of the increased production of each of these goods.

Table 3: Production of transport vehicles and pumps, 1950-2011

Year	Commercial vehicles (million)	Motor cycles (Million)	Pumps (power driven) (million)	Tractors (million)
1950-51	9	-	35	-
1960-61	28	1	105	-
1970-71	41	97	259	-
1980-81	72	447	431	71
1990-91	146	1843	19	142
2000-01	152	3756	482	284
2010-11	753	10527	3139	465

1. Can you point out some examples of increase in production of goods that are used in the production of many products by different factories?
2. What has been the increase in production of cloth over the past 30 years? What would be the impact of this? Discuss in your class.
3. Refer the chart that shows the production of cement and steel construct a table to show the increase from 80-81 to present times. Discuss some positive and negative effect of this increase in production.

Increase in the environmental problems and pollution

The production process in industries involves the use of electricity and application of different chemicals. In the course of production, these industries release a lot of other materials. They are causing pollution in the industrial locations. One such instance is given in the biological science textbook at chapter X of Class IX .



Key words

1. Colonial rule
2. Consumer goods
3. Infrastructure facilities
4. Basic goods industries
5. Self sufficiency
6. Per capita consumption
7. Liberalisation

Improve your learning

1. Why government took up responsibility to set up basic goods industries?
2. Why are industries located in specific areas?
3. What are the basic goods industries? How they are different from consumer goods industries?
4. Give a list of towns / areas in which some conventional mineral resources are found and ask students to identify then possible industries which can be set up.

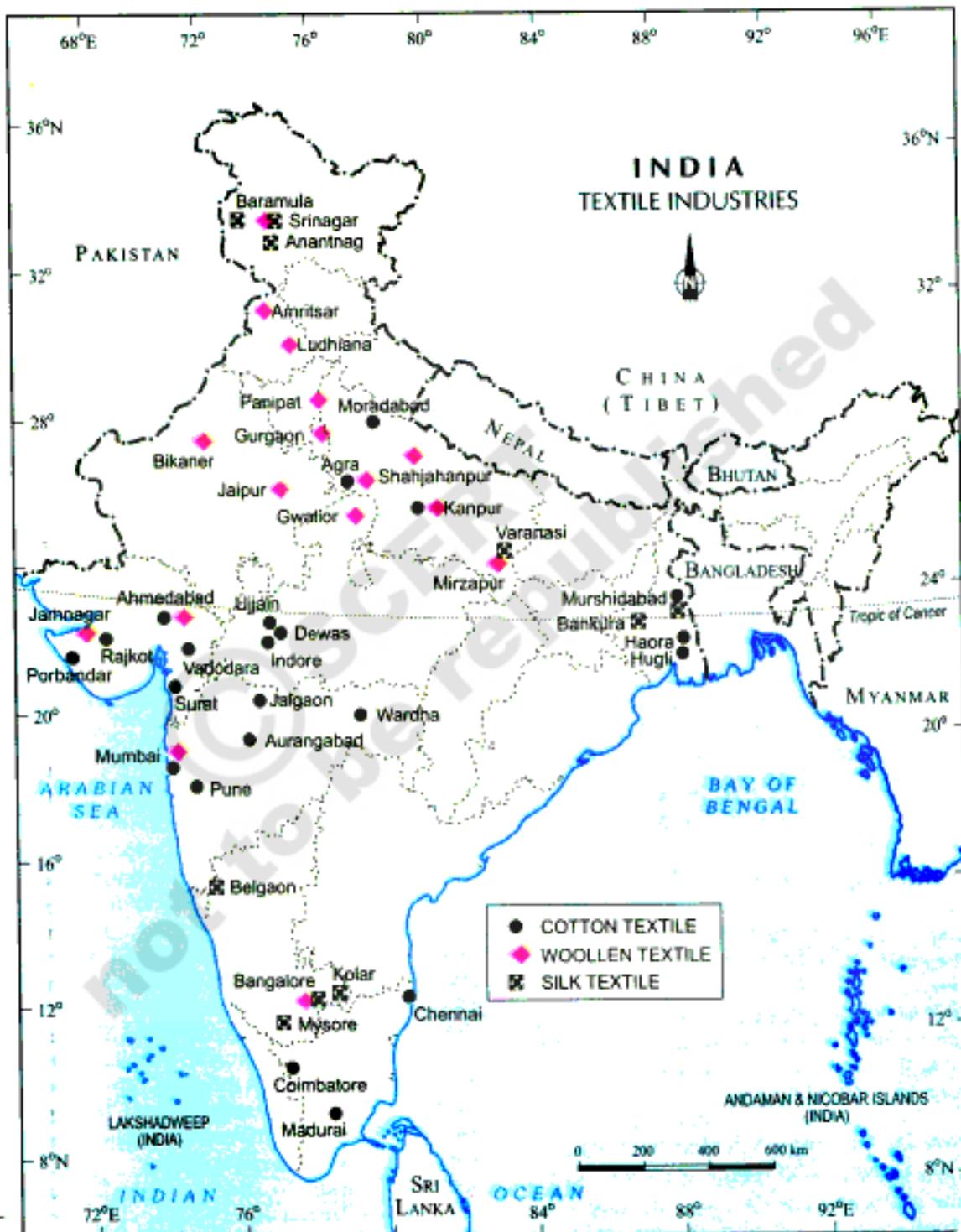
Sl. No.	Minerals/ Resources	Towns/areas in which these resources are available	List the kind of industries that can be set up in this area
1	Iron ore		
2	Coal		
3	Jute		
4	Oil		
5	Natural Gas		
6	Forests		
7	Manganese		
8	Bauxite		

5. Why government in 1990s allowed private industries in many areas which were earlier restricted only to government?
6. What is the impact of industrial development on employment generation?
7. What is the impact of industrial development on revenue?
8. 'Industrial activities increase environmental problems.' Discuss.

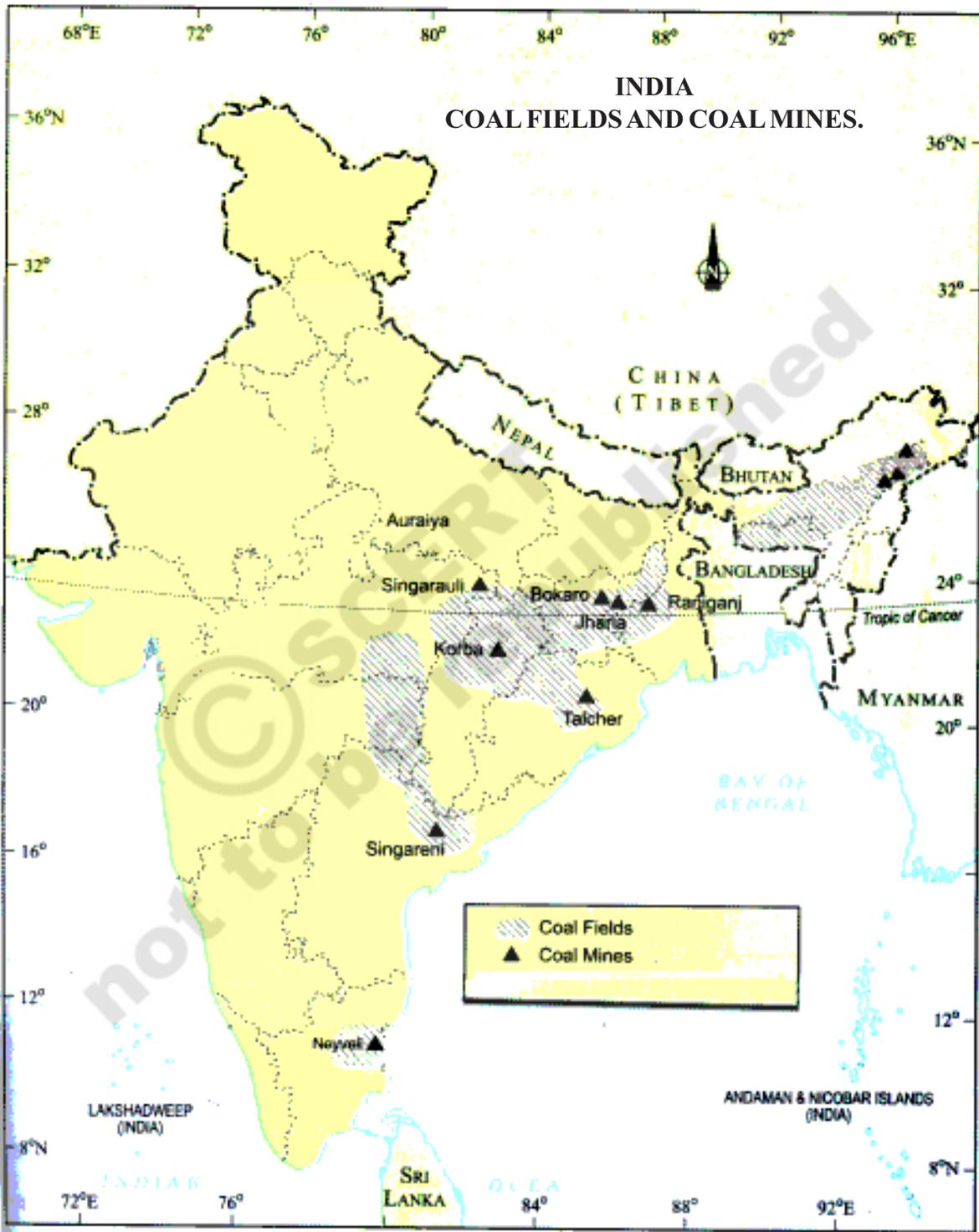
Project

Select one agro-based and one mineral based industry in your area.

- (i) What are the raw materials they use?
- (ii) What are the other inputs in the process of manufacturing that involve transportation cost?
- (iii) Are these factories following environmental norms?









In the previous chapters you have read about two important productive activities – agriculture and industries in India. Service activities constitute the other major sector. What is a service activity? What is the nature of service activities in India? How are they important for the country and challenges that we face? In this chapter we will try to answer these questions.

What is a service activity?

1. Sarojini is a doctor working in a hospital. She goes around the wards, examines patients, prescribes medicines and monitors their progress. What exactly does Dr. Sarojini produce? In terms of commodities – nothing. But in terms of services, she is helping the patients to recover and to achieve good health.
2. Soundarya sells groceries. This shop has been set up in the front portion of her house. She opens the shop after sending her children to school and manages this till late night. Her husband helps her in buying all the grocery items from wholesale shops in the town. As a trader she is providing a service or doing the work of reaching the products to the consumers.
3. Ramesh works as an accountant in a company. He has to check accounts, verify payments and receipts, and make sure that the accounts tally with the bills. Writing and maintaining accounts is a service or work that all business organisations require.
4. Sampath has a mini-van. Every morning he goes to the fish market. Many women buy fish from the fish market and use Sampath's mini-van to travel to their locality. He collects payments for transporting fish from market.

All the four – Sarojini, Soundarya, Ramesh and Sampath are engaged in service activities. You will find that their activities are different from farmers, agricultural labourers or industrial workers. (Refer Venkatapuram, Class VI or paper mill and industrial workers, Class VII).

They are not producing something tangible like paddy or cloth. They are however doing work that people and business require in the form of specialised services. Service here refers to the nature of work done. This is in contrast to or different from producing a good. 'Service' in this context of work doesn't mean something that is done free of cost or out of love and devotion. All the above people earn money through this work. This is their livelihood.

Service activities are required for agriculture and industrial activities. What would happen to paddy and vegetables if bullock carts, trucks and buses were not there to provide transport? How one can build buildings if there are no railways to transport cement bags from factories to sales outlets located in towns and cities? Even if these goods reach market, there should be a group of people who buy these and either sell directly to consumers or to other producers such as rice mills, oil mills etc. This means trading activity also constitutes a major segment of service activities.

Working people engaged in service activities do not produce a commodity, like that in agriculture or in industry. They do special kind of activities that help agriculture and industry and also provide a lot of service that people require. Another example is the banking and finance related service activities required by people and business organisations. You have read about this in Class VIII chapter (Money and Banking). Similarly there are the cell phone, internet and all other types of telecommunication service providers

There are eight categories of service activities given below. Some details are filled in, others are left out. Fill in the blank ones after discussing with your teacher.

1. **Education:** Institutions – schools, colleges, universities, technical institutions come under this category. This means those who are working in these institutions such as teachers, all the administrative staff and their activities constitute services.
2. **Health and Medical Services**
3. **Trade:** A variety of selling activities both wholesale and retail that we see around.
4. **Public Administration:** Public services under village and town panchayats, state and central governments come under this category. Examples: people who work in police stations, workers of various other government departments such as village administrative officers, revenue inspectors, tahsildars, Collectors, those who work in all kinds of courts, assistants, clerks, accountants, typists, peons, drivers etc.
5. **Defence:** Activities and people who work in all the armed forces like army, navy and air force.
6. **Financial activities:** Banks and
7. **Personal Services:** Workers who do domestic work, laundry, cleaning, dyeing services, hair dressing, running beauty parlours, tailoring shops, photo and video studios.

8. Activities such as : People working in entertainment and information technology industry – production of films, TV serials, those working in media, newspapers, television channels, and advertisement agencies are also included in services.

Importance of the service sector and some challenges

In any developing country such as India, developmental initiatives involve setting up of many establishments. This includes expansion of infrastructure facilities and other services. Refer to the two employment charts in the previous chapter. Service activities constitute about one-fourth of all the jobs people do in India. How are the service jobs expanding? One possible reason could be due to improvement in general well being of the people. When people earn better incomes, the way they spend their income also undergoes change. They tend to spend more on service-oriented activities such as education, entertainment, eating out and tourism. Let's examine some of the factors for increase the importance of the service sector.

Changes in technology and exports of services

The continuously changing technology is also one of the driving forces of service sector. Since the early 1990s, there has been tremendous change in the communication technology about which you have studied in Class VIII. Business Processes Outsourcing (BPO) has brought in new kinds of employment opportunities to many young people. BPOs employ people located here but they provide a service to people located across the globe using telecommunication links. Many Information Technology companies established in metropolitan cities employ highly skilled engineers that provide specialised software services to companies all over the world. They get projects from these companies abroad.



Fig. 8.1: Call Centre

The entertainment industry creates jobs to work in various print media firms, cable television channels. It is common to find internet cafes and public telephone booths in most of the cities and towns. The advertising industry has also brought new job opportunities. Many new activities

are found in banking and insurance sectors. All these are possible now due to change in technology.

All these require not only advanced level of technological equipments such as computers but also employ a very few highly skilled workers. In other words, producers in the service sector use a lot of machinery and equipments, employing less number of highly skilled people. Thus, the way service sector is growing may not help in reducing unemployment in the country.

There are many “call centers” in big cities. If a resident of London wants information about her bank deposits or her hospital records she may get it from such a “call center” located in them.

I am Sarala working as specialised software engineer for the last 3 years. My company has 120 employees on its pay roll and has a sales figure of about Rs. 50 crores. Four friends together started this company seven years ago. Many of our colleagues regularly go abroad for providing various support services and consultancy. I’m paid a good salary but also expected to work very long hours.

Shifting of service activities to others: “Outsourcing”

Due to changes in technology and stiff competition in industrial sector, many industries have diverted a major section of their activities to service sector. They don’t do it themselves but get it done from ‘outside’. For example, until a few years before, if any company employs security staff, they used to recruit people and pay their salary from the company’s pay-roll. Now-a-days, in order to reduce cost and avoid paying health, pension and provident fund benefits to workers, a large number of industries outsource security services to security agencies. Many manufacturing companies outsource their work for research and development, accounting, legal services, customer service, public relations etc.

Lack of job opportunities, hence employed in low income service

Closure of many industries particularly in textiles and other industries has forced workers of these factories to work as small vendors, rickshaw pullers and other low income service professions. This shift also has created unemployment in urban areas. People from rural areas come to work in the city but there are not enough employment opportunities in urban areas. So they either go back to agriculture sector or land up in many unskilled low earning employment opportunities in services.

I am Aseem. I came to Delhi more than 10 years ago. I ply the rickshaw during the day and stay on the roadside at night. Every evening I have to pay rent to the owner. My earnings from cycle rickshaw are not regular. Some days I earn Rs.250 and on other days I get hardly 100-150 rupees. These days there's more competition and the number of cycle rickshaws in this area is increasing.



- The following table shows the number of workers (in lakhs) employed in different service activities in large enterprises in 1991 and 2010. Read the table carefully and answer the questions that follow.

Service sector activities	Government jobs		Private jobs	
	1991	2010	1991	2010
Wholesale and retail trade	1.5	1.7	3.0	5.1
Transport, storage and communications	30.3	25.3	0.5	1.7
Finance, insurance, real estate etc.	11.9	14.1	2.5	15.5
Community, social and personal services	92.3	90.5	14.9	21.4

- Which service activity gave maximum employment in 2010?
- Has the number of government jobs increased or decreased over the years? What kind of jobs has government generated most during this period?
- What kind of jobs were people able to get in the private service activities?
- Are there any differences between jobs provided by the government and private employers? Discuss.

Stress in jobs in Information Technology

Becoming software engineer has become dream of the young people in these days. These service jobs although bring a lot of income to families but at the same time bring stress in the new jobs that they do. Read the following statement of an IT professional.

My lifestyle has improved due to IT. In college I had just two trousers and two shirts. Now I don't know how many shirts I have, I haven't counted. I buy good quality clothes and I don't have to think about what I am spending. So definitely, working in software has added comfort to my life. Earlier there were a lot of financial problems in the family— my brothers and sisters were not able to study properly due to this, and I am very happy that I have been able to solve this problem. But it is a stressful and mechanical life; there is no social life. In my

hometown, there were always people around—neighbours and relatives. There was always someone to go and talk your heart out with—but here it's not like that.

Desired service today

In recent times, there has been some debate about expansion of service activities that we need to understand. Read the following two different case studies and answer the questions that follow.

Case Study 1: Foreign Direct Investment in Retailing Activities

Since 2012, foreign companies can set up retail shops to sell goods in India. While a few are supporting this new policy, many others are arguing against this policy. Those who are critical about this argue that the small farmers may initially find it attractive to sell directly to the large foreign supermarkets but these foreign investors companies will sooner or later misuse their power to buy in large quantities and compel the farmers to sell at very low prices. About 20-40% of agricultural goods are wasted due to lack of proper storage facilities. This is not a small quantity which can be neglected when it comes to the improvement of the living conditions of farmers. This wastage can be minimized if government establishes state of the art storage facilities which only MNCs can have today. Also that supermarkets will minimize wastage of farm produce through investment in storage facilities is not persuasive on two counts: the alleged wastage of farm produce is exaggerated, and the big retailers have in fact not invested as much as they were expected to do in storage facilities; there will be loss of jobs in traditional, smaller retail sector; and they will drive out smaller retailers, resulting in concentration of market power in the hands of a few.

The supporters argue that there will be gainers and losers from FDI in retail, but the overall gains will outweigh the losses. Moreover, in course of time the losers too will benefit. It was argued that large and medium sized farmers will initially benefit the most, while the small farmers or landless labour will be the losers. However, the purchases by the big supermarkets will increase demand for agricultural products, which in turn will expand agricultural output ... which in turn may increase demand for labour. This will increase agricultural wages in the long run.

You may recall what you learnt in class VI social studies how paddy wholesale traders earn their profit from farmers by lending money and get back their produce at lower than the price prevailing in markets. The foreign retailer may also enter into an interlinked contract with farmers, and at a lower interest rate than charged by the moneylenders. This too is not a desirable state of affairs for the farmer, but a lesser evil: MNCs can purchase more of the produce due to

- What do you think? Can government do anything to address this issue?

better storage facilities and this will be more beneficial to farmers than what they have to put up with moneylenders.

Case Study 2: India faces an acute shortage of skilled human resources in the health sector, says a recent report

India faces an acute shortage of over 64 lakh skilled service professionals in the health sector with Uttar Pradesh alone accounting for a shortfall of 10 lakh allied healthcare professionals, according to a study. The density of doctors in India in 2011 was six for a population of 10,000, while that of nurses and midwives is 13 per 10,000 persons. India has a doctor to population ratio of 0.5:1000 in comparison to 0.3 in Thailand, 0.4 in Sri Lanka, 1.6 in China, 5.4 in the U.K., and 5.5 in the U.S.

Also there is a gap of 20 lakh dental assistance-related technologists, 18 lakh rehabilitation-related workforce, 9 lakh miscellaneous health workers and 9 lakh surgery and anaesthesia-related professionals. There is also a shortage of around 2.4 lakh medical technologists, 2 lakh surgical and intervention technology-related health professionals, 1.3 lakh ophthalmology-related workers, 62,000 medical laboratory professionals.

The shortfall of different medical professionals has resulted in the uneven distribution of all cadres of health workers, medical and nursing colleges, nursing and ANM (Auxiliary Nurse and Midwife) schools, and allied health institutions across the States with wide disparity in the quality of education. The uneven distribution of professional colleges and schools has also led to an imbalance both in the production capacity and in the quality of education and training, leading to poor health outcomes. By empowering allied health professionals or paramedics, as they are known at present, they can be the leaders of change, playing critical role in improving the reach of health services in underserved areas.

- What is your opinion on foreign companies setting up retail shops in India? How do you think that they can generate employment in India?
- Talk to some retail shop owners in your neighbourhood. Discuss their opinions on foreign retailing shops in your class.
- Prepare a table with two columns and list out the advantages and disadvantages of allowing foreign company retail stores in India.
- Why is it necessary to establish more medical institutions in India?
- Who, in your opinion should set up new medical institutions – private sector or government? Why?

To sum up, in this chapter, we have looked at the importance of service activities and how they contribute to economic development of the country. India is required to shift people working in agriculture to industry and service jobs. This means sufficient number of jobs will have to be generated. There should be more and more factories established and infrastructure such as roads, hospitals, educational institutions are to be set up. We need more good quality roads and other transport facilities, storage facilities, credit facilities. Many industrial activities are now depending on the service activities to face the competition. New economic policies in India are also giving emphasis to expansion of service activities.

Key words

1. Call centers
2. Service activities
3. Outsourcing
4. Information Technology
5. Economic development
6. Retail trade

Improve your learning

1. What is meant by the term, “service activities”?
2. List five service activities and give your reasons why they are not to be considered as either agricultural or industrial activities.
3. How can service activities help in the overall development of a country?
4. How are agricultural and industrial activities related to services?
5. The growth of service sector is sustainable and can make India as a rich country. Do you agree with this statement? Elaborate.
6. Why are service sector activities becoming important?
7. Service activities cannot expand beyond a level unless agriculture and industries. Explain.
8. How can service sector reduce educated unemployment in India?
9. Is there any migration of labourers from your area? Find out the reasons for the migration.
10. Read the 9th paragraph of this chapter; (Service activities do not produce) and answer the following:
What are the service activities required for agriculture and industries?

Project

Discuss with any seven people identify with sector they are employed in. Write a brief note or design a poster about their work. What relationship do you see between their employment and place of residence?

Sl. No.	Name of the person	Nature of work done	Agriculture/ Industry/ Services
1			
2			
3			
4			
5			
6			
7			

Explain your reason for the classification.



Credit in the Financial System

In Class VIII you read about money and different kinds of accounts in a bank. You may be aware that people borrow from many sources like their friends, relatives, money lenders, banks etc. Agricultural labourers borrow from their employers and work for less than market wages. Different kinds of credit arrangements are an important component of financial system of a country and play crucial role. In this chapter we will read about some aspects of credit system.

Bank deposits as money

Modern forms of money include currency - paper notes, coins and bank deposits. You read about this in Class VIII.

Banks accept the deposits and also pay an amount as interest on the deposits. In this way people's money is safe with the banks and it earns an interest. People have the right to withdraw the money as and when they require. Since the deposits in the bank accounts can be withdrawn on demand, these deposits are called demand deposits.

Demand deposits offer another interesting facility. It is this facility which lends it the essential characteristics of money (that of a medium of exchange). You have read of payments being made by cheques or by electronic means instead of cash. Since one can withdraw money in cash or make payments by cheque. It makes these deposits work like any other form of money such as currency notes. Since demand deposits are accepted widely as a means of payment, along with currency they constitute money in the modern economy.

You must remember the role that the banks play here. But for the banks, there would be no demand deposits and no payments by cheques against these deposits. The modern forms of money - currency and deposits - are closely linked to the working of the modern banking system.

- Why are demand deposits considered as money?
- The deposits kept at the bank are also insured by the government? Find out the details.
- Do you think fixed deposits that people keep with banks will easily work like money? Discuss.

This entire system is supervised by the government's Reserve Bank of India so that the promise made by the banks to honour withdrawals in cash or payment by cheque is always kept. The government has to ensure that people's trust in the money kept with the banks in the form of

demand deposits or as fixed deposits is always maintained and their money is available for use and accepted by all. The Reserve Bank issues guidelines for this system and examines it working so that people's trust is maintained. Similarly the government has to ensure that the supply of notes and coins is in adequate amount and in good condition so that people don't face problems in the currency being used.

Loan Activities of banks



Fig 9.1 : Circular flow of money - Public bank

What do the banks do with the deposits which they accept from the public? There is an interesting mechanism at work here. Banks keep only a small proportion of their deposits as cash with themselves. For example, banks in India these days hold about 15 percent of their deposits as cash. This is kept as provision to pay the depositors who might come to withdraw money from the bank on any given day. Since, on any particular day, only some of its many depositors come to withdraw cash, the bank is able to manage with this cash. This is how banking started because banks all over the world found that they could keep their promise of paying cash on demand by keeping only a small fraction of the money in cash.

Banks use the major portion of the deposits to extend loans. There is a huge demand for loans for various economic activities. We shall read more about this in the following sections. Banks make use of the deposits to meet the loan requirements of the people. In this way, banks mediate between those who have surplus funds (the depositors) and those who are in need of these funds (the borrowers). Banks charge a higher interest rate on loans than what they offer on deposits. The difference between what is charged from borrowers and what is paid to depositors is the primary source of income for banks.

- What would happen if all the depositors went to ask for their money at the same time?
- Talk to someone who has taken a bank loan. What was the purpose and how did she approach the bank?
- Interview a bank manager. What are the loans that they have given? Are there any activities for which they would not give loans?
- Apart from banks people keep deposits in other institutions such as housing societies, companies, post office schemes etc. Discuss how is this different from bank deposits?

Why people require credit

Compared to past, people's need for credit has increased. This may be due to a variety of reasons. In agricultural practices earlier most of the inputs were supplied by the farmers themselves. They used their own cattle for ploughing, family members for work and sow seeds and manure their farms. The new farming practices require substantial amount of cash in hand – to buy seeds, fertiliser, pesticides, and to pay for ploughing, threshing, harvesting and hired workers.

The increased availability of consumer goods in the market and arrangements for finance has also

increased the variety of credit arrangements. We get a variety of goods – ranging from essential food grains to utensils, home appliances and furniture etc. now on credit. Manufacturers and sellers of these goods encourage people and particularly those with regular monthly incomes and having bank accounts to buy on credit and pay in monthly installments. For example, if you purchase a television for Rs.20,000, you can pay Rs.5000 initially and pay the rest every month over one or two years. People also borrow to meet the payments of school/ college fees and for health services. One of the major reasons for indebtedness is the need to borrow for medical requirements.

As business and trade increases their requirement of loans also increases. A substantial part is financed by borrowings from various sources. The idea is to earn more than what they have to pay as interest. How does this work? We would examine in some examples below.

Two Different Credit Scenarios

It is festival season two months from now and the shoe manufacturer, Alisha, has received an order from a large trader in town for 3,000 pairs of shoes to be delivered in a month's time. To complete production on time, Alisha has to hire a few more workers for stitching and pasting work. He has to purchase the raw materials. To meet these expenses, Alisha obtains loans from two sources. First, he asks the leather supplier to supply leather now and promises to pay him later. Second, he obtains loan in cash from the large trader as advance payment

for 1000 pairs of shoes with a promise to deliver the whole order by the end of the month.

At the end of the month, Alisha is able to deliver the order, make a good profit, and repay the money that he had borrowed.

A large number of transactions in our day-to-day activities involve credit in some form or the other. Credit (loan) refers to an agreement in which the lender supplies the borrower with money, goods or services in return for the promise of future payment. Alisha obtains credit to meet the working capital needs of production. The credit helps him to meet the ongoing expenses of production, complete production on time, and thereby increases his earnings. Credit therefore plays a vital and positive role in this situation.

Swapna, a small farmer, grows groundnut on her 3 acres of land. She takes a loan from the moneylender to meet the expenses of cultivation, hoping that her harvest would help repay the loan. Midway through the season the crop is hit by pests and the crop fails. Though Swapna sprays her crops with expensive pesticides, it makes little difference. She is unable to repay the money to lender and the debt grows over the year into a large amount. Next year, Swapna takes a fresh loan for cultivation. It is a normal crop this year. But the earnings are not enough to cover the old loan. She is caught in debt. She has to sell a part of the land to pay off the debt.

In the rural areas, the main demand for credit is for crop production. Crop production involves considerable costs on seeds, fertilizers, pesticides, water, electricity, repair of equipments, etc. There is a minimum stretch of three to four months between the time when the farmers buy these inputs and when they sell the crop. Farmers usually take crop loans at the beginning of the season and repay the loan after harvest. Repayment of the loan is crucially dependent on the income from farming.

In Swapna's case, the failure of the crop made loan repayment impossible. She had

- Fill the following table:

	Alisha	Swapna
Why did they need credit?		
What was the risk?		
What was the outcome?		

- Supposing, Alisha continues to get orders from traders. What would be his position after 6 years?
- What are the reasons that make Swapna's situation so risky? Discuss the following factors: pesticides, role of moneylenders and climate.

to sell part of the land to repay the loan. Credit, instead of helping Swapna to improve her earnings. It left her worse off. This is an example of what is commonly called debt-trap. Credit in this case pushes the borrower into a situation from which recovery is very painful.

In one situation credit helps to increase earnings and therefore the person is better off than before. In another situation, because of the crop failure, credit pushes the person into a debt trap. To repay her loan she has to sell a portion of her land. She is clearly much worse off than before. Whether credit would be useful or not, therefore, depends on the risks in the situation and if there is some support in case of loss.

- People also require credit for consumption and to manage many socio-cultural aspects. Marriages require a huge expenditure on both bride and groom which compel families to borrow. Do you think there are other reasons for people borrowing in your area? Find out from your parents and teachers and discuss in the class.

Terms of Credit

Every loan agreement specifies an interest rate which the borrower must pay to the lender along with the repayment of the principal. In addition, lenders may demand collateral (security) against loans. If the borrower fails to repay the loan, the lender has the right to sell the asset or collateral to obtain payment. Property such as land titles, deposits with banks, livestock are some common examples of collateral used for borrowing.

Collateral

Collateral is an asset that the borrower owns (such as land, building, vehicle, livestock, deposits with banks) and uses this as a guarantee to a lender until the loan is repaid.

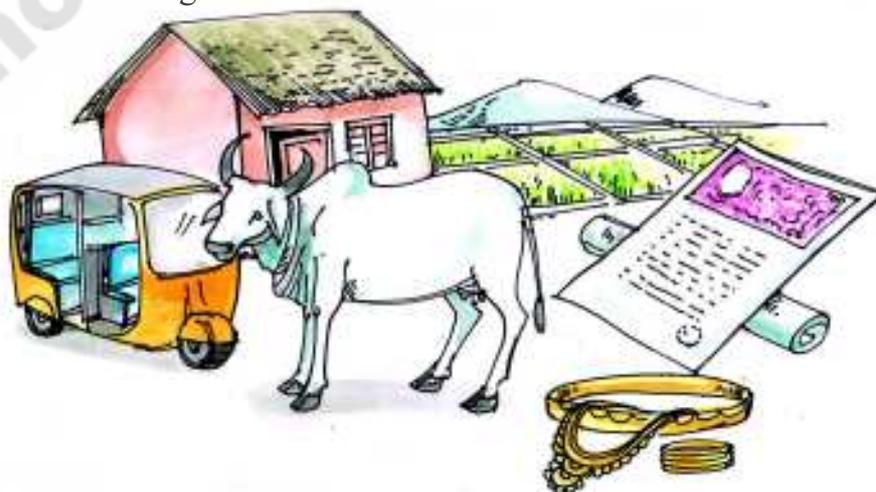


Fig 9.2 An immovable or movable property as collateral

Sivakami, a teacher has taken a loan of Rs. 5 lakhs from a bank to purchase a house. The annual interest rate on the loan is 12 percent and the loan is to be repaid in 10 years in monthly instalments. She had to submit to the bank documents showing her employment records and salary before the bank agreed to give her the loan. The bank retained as collateral the papers of the new house, which will be returned to Sivakami only when she repays the entire loan with interest.

Interest rate, collateral and documentation requirement and the mode of repayment together comprise what is called the terms of credit. The terms of credit vary substantially from one credit arrangement to another. Depending on the nature of the lender and the borrower, the terms of credit vary. The next section will provide examples of the varying terms of credit in different credit arrangements.

- Why do lenders ask for collateral while lending?
- How the demand for collateral affect poor persons capacity to borrow?
- Fill in the blanks choosing the correct option from the brackets:

While taking a loan, borrowers look for easy terms of credit. This means _____ (low/high) interest rate, _____ (easy/tough) conditions for repayment, _____ (less/more) collateral and documentation requirements.

Variety of Credit Arrangements: Example of a Village

Vasu is a small farmer and he needs loans for cultivation on his 1.5 acres of land. For the last few years, he has been borrowing from an agricultural trader in the village at an interest rate of 3 percent per month i.e 36 % per year. At the beginning of the cropping season, the trader supplies the farm inputs on credit, which is to be repaid when the crops are ready for harvest.

Besides the interest charge on the loan, the trader also makes the farmers promise to sell the crop to him. This way the trader can ensure that the money is repaid promptly. Also, since the crop prices are low after the harvest, the trader is able to make a profit from buying the crop at a low price from the farmers and then selling it later when the price has risen.

Arun is a farmer and has 7 acres of land. He is one of the few persons to receive bank loan for cultivation. The interest rate on the loan is 10 percent per annum, and can be repaid anytime till 3 years. Arun plans to repay the loan after harvest by selling a part of the crop. He then intends to store the rest of the potatoes in a ware house in the nearby town and apply for a fresh loan from the bank against the cold storage receipt. The bank offers this facility to farmers who have taken crop loan from them.

- List the different sources of credit in the above examples.
- Underline the various uses of credit in the above passages.
- Can everyone get credit at a cheap rate? Who are the people who can?
- Tick the correct option(s):
 - (a) Over the years, Rama's debt
 - will rise.
 - will remain constant.
 - will decline.
 - (b) Arun is one of the few persons to take a bank loan. One reason for this is
 - He is an educated person.
 - Banks demand collateral which everyone cannot provide.
 - Interest rate on bank loans is same as the interest rate charged by the traders.
 - There is no documentation work required for getting bank loan
- Talk to some people to find out the credit arrangements that exist in your area. Record your conversation. Are there any differences in the terms of credit?

Rama is an agricultural labour working in a neighbouring field. There are several months in the year when Rama has no work, and needs credit to meet the daily expenses. Expenses on sudden illnesses or functions in the family are also met through loans. Rama has to depend on her employer, a landowner, for credit. The landowner charges an interest rate of 5 percent per month. Rama repays the money by working for the landowner. Most of the time, Rama has to take a fresh loan, before the previous loan has been repaid. At present, she owes the landowner Rs. 5,000. Though the landowner does not treat her well, she continues to work for him since she can get loans from him when in need. Rama tells us that the only source of credit for the landless people is the landowner-employers.

- Fill the following details for Sivakami, Arun, Rama and Vasu.

Particulars	Sivakami	Arun	Rama	Vasu
Loan Amount (in Rupees)				
Duration of loan				
Documents required				
Interest rate				
Mode of repayment				
Collateral				

Formal and informal sources of credit in India

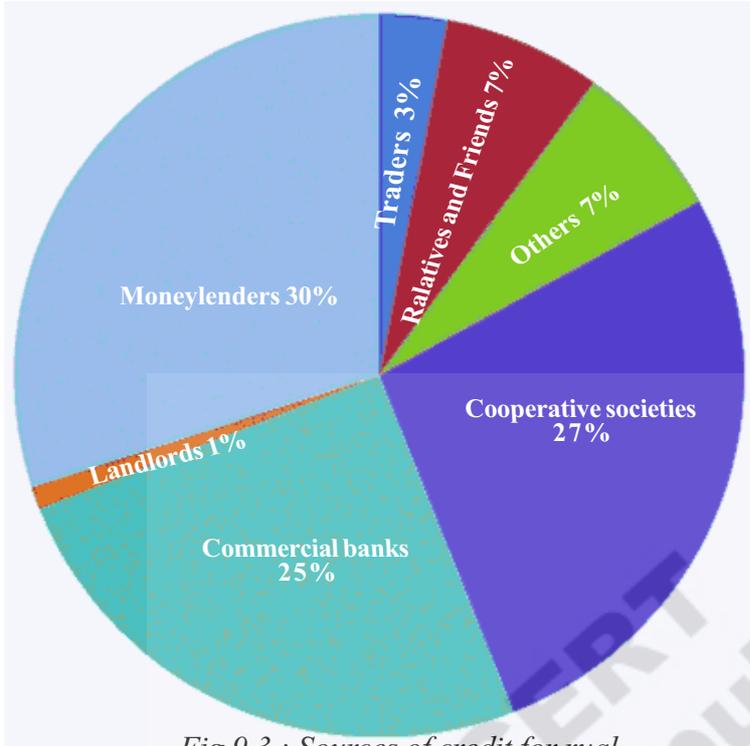


Fig 9.3 : Sources of credit for rural Households in India in 2003

In the above examples that people obtain loans from various sources. The various types of loans can be conveniently grouped as formal sector loans and informal sector loans. Among the formal loans, the loans from banks and cooperatives. The informal loans include loans from moneylenders, traders, employers, relatives and friends, etc. In the pie-chart you can see the various sources of credit to rural households in India. Out of every 100 rupee credit required by rural families, Rs.25 was available from commercial banks. Besides banks, the other major source of cheap credit in rural areas is the cooperative societies (or

cooperatives). There are several types of cooperatives such as farmer's cooperatives, weaver's cooperatives etc. You will also notice money lenders are an important section of informal credit providers in India.

From the data above (fig. 9.3) complete the following table and discuss in the class that one can observe since 1961.

Credit Organisations	Source of credit (in %)			
	1961	1971	1981	2003
Cooperatives and Commercial banks	10.3	24.4	58.6	?
Government and other formal sources	5.5	7.3	4.6	?
Total of formal organisations	?	?	?	?
Moneylenders	62.0	36.1	16.1	?
Traders	7.2	8.4	3.1	?
Landlords	7.6	8.6	4.0	?
Relatives and friends	6.4	13.1	11.2	?
Other sources	0.8	2.1	2.4	?
Total of informal organisations	?	?	?	?
Total percentage	100.0	100.0	100.0	100.0

New Initiatives

The RBI has now initiated processes of improving the financial access to people in rural areas. All banks would be opening rural accounts using Business Facilitators and Business Correspondents. These correspondents would encourage people in rural areas to open bank accounts so that they can save their money and also use loan facilities of the bank. These facilitators would help them connect with the local branch. Electronic identification systems would be used to open these accounts.

Recently the government initiated providing Unique Identification Number to every citizen of India. All those who have enrolled themselves are given a card called Aadhaar. Those who have this number can open the bank account easily and also get the benefits and services provided by government. Earlier banks used to make it mandatory to put a minimum amount while opening an account.

Now-a-days bank people can open account and there is no compulsion to keep any minimum amount. This is called no-frills account.

The RBI sees that the banks give loans not just only to profit-making businesses and traders but also to small cultivators, small scale industries, to small borrowers etc. In recent times, besides RBI, National Bank for Agricultural and Rural Development (NABARD) is another organisation that facilitates formal credit organisations in rural India.

Even though the amount of bank loans given for agriculture have been increasing in recent years, still a considerable section of farmers do not get access to bank credit. You may recall from chapter on agriculture that in 2011, there were 14 crore farmers in India. Out of this only about 5.3 crore farmers have agricultural loan accounts. This means more than two-thirds of farmers do not have access to bank loan facilities. These nearly 9 crore farmers have to rely on informal sources of credit such as money lenders and traders. They charge exorbitant rates of interest as you have seen in the earlier examples.

Formal and Informal Credit: Who gets what?

There is no organization that monitors and regulates the credit activities of lenders in the informal sector. They are able to lend at whatever interest rate they can force upon.

There are some major differences between the way formal and informal credit providers operate in India. While the formal credit providers follow certain rules and regulations framed by government and in particular, the RBI and they expect their clients also to follow certain procedures. Informal credit providers do not follow such government rules and they evolve their own procedures. Formal credit providers also have to follow certain expectations of government which is not required for the informal credit providers. When the borrower could not repay as per the agreed terms, formal credit providers cannot use any illegal ways to get

back the credit, where as informal credit providers use many coercive and illegal ways which at times lead to borrowers committing suicides.

Compared to the formal lenders, most of the informal lenders charge a much higher interest on loans. This means, the cost to the borrower of informal loans is much higher. Although many states have laws to protect its people from informal credit providers such as money lenders from charging a high interest rate, they are not only sufficient to make the money lenders to charge low interest rates but are yet to be enforced effectively.

Higher cost of borrowing means a larger part of the earnings of the borrowers is used to repay the loan. Hence, borrowers have less income left for themselves. In certain cases, the high interest rate of borrowing can mean that the amount to be repaid is greater than the income of the borrower. This could lead to increasing debt. Also, people who might wish to start an enterprise by borrowing may not do so because of the high cost of borrowing.

For these reasons, banks and cooperative societies need to lend more. This would lead to higher incomes because many people could then borrow cheaply for a variety of different needs. They could grow crops, do business, set up small-scale industries etc. They could set up new industries or engage in business activity. Cheap and affordable credit for all is crucial for the country's development.

The rich households are availing cheap credit from formal lenders whereas the poor households have to pay a heavy price for borrowing from informal sources.

- The following table shows how urban families borrow from two sources in 2003 (in percentage). Read the table carefully and fill in the blanks of the passage given.

Description of the Borrower Households	Formal Credit	Informal Credit	Total Credit
Poor Households	15	85	100
Households with few assets	47	53	100
Well-off Households	72	28	100
Rich Households	90	10	100

The table above shows the share of formal and informal sources for people living in urban areas. The people include both rich and poor households. You can see thatper cent of the credit needs of the poor households are met from informal sources. Formal sources of credit account for onlyper cent. Compare this with the rich households. What do you find? Onlypercent of their loans are from informal sources, whileper cent is from formal sources. You would find a similar pattern in rural areas.

What do all these suggest? First, the formal sector still meets only about half of the total credit needs of the rural people. The remaining credit needs are met from informal

sources. Most of the loans from the informal lenders carry very high interest rates and do little to increase the income of the borrowers. Thus, it is necessary that

- What are the differences between formal and informal sources of credit?
- Why should credit at reasonable rates be available for all?
- Should there be a supervisor such as the Reserve Bank of India that looks into the loan activities of informal lenders? Why would its task be quite difficult?
- Do you think that the low share of formal sector credit for poorer households has been one of the factors for farmer distress in A P? Discuss

banks and cooperatives increase their lending particularly in the rural area, so that the dependence on informal sources of credit reduces.

Second, while formal sector loans need to expand, it is also necessary that everyone receives these loans. At present, it is the richer households who receive formal credit whereas the poor have to depend on the informal sources. It is important that the formal credit is distributed more equally so that the poor can benefit from the cheaper loans.

Self-Help Groups for the Poor

In the previous section we have seen that poor households are still dependent on informal sources of credit. Getting a loan from a bank is much more difficult than taking a loan from informal sources.

Bank loans require proper documents and collateral. Absence of collateral is one of the major reasons which prevent the poor from getting bank loans. They have few assets to keep as collateral. Informal lenders such as the moneylenders, on the other hand, know the borrowers personally and hence are often willing to give a loan without collateral. The borrowers can, if necessary, approach the moneylenders even without repaying their earlier loans. However, the moneylenders charge very high rates of interest and do not reveal of the transactions and harass the poor borrowers. They also have ways of linking this credit to buying the produce at a cheap rate or forcing them to provide labour.

In recent years, government and Non Government Organisations (NGOs) have tried out some newer ways of providing loans to the poor. The idea is to organise rural poor, in particular women, into small Self Help Groups (SHGs) and pool (collect) their savings. A typical SHG has 15-20 members, usually belonging to one neighbourhood, who meet and save regularly. Saving per member varies from Rs. 25 to Rs. 100 or more, depending on the ability of the people to save. Members can take small loans from the group itself to meet their needs. The group charges interest on these loans but this is still less than what the moneylender charges.

After a year or two, if the group is regular in savings, the group is eligible for loan from the bank. This bank linkage enhances the loan amount available to all the members. Loan is sanctioned in the name of the group and it ensures that the loans are paid back. The trust and pressure among the members makes this possible.

Important decisions regarding the savings and loan activities are taken by the group members. The group decides the terms of credit. Also, the group members are jointly responsible for the repayment of the loan. Any case of non-repayment of loans by any one member is followed up seriously by other members in the group. Because of this feature, banks are willing to lend to the poor women when organised in SHGs, even though they have no collateral as such.

Collateral usually kept by banks is not necessary. These loans are meant to create self-employment opportunities for the members. For instance, members take small loans for releasing mortgaged land, for meeting working capital needs (e.g. buying seeds, fertilizers, raw materials like bamboo and cloth), for buying housing materials, for acquiring assets like sewing machine, handlooms, cattle etc.

Moreover, SHGs are the building blocks of organisation of the rural and urban poor. Not only do women become financially self-reliant, the regular meetings of the group provide a platform to discuss and act on a variety of social issues such as health, nutrition, domestic violence, etc.

- How is a loan to a SHG member different from an individual loan by a bank?
- Some SHG groups charge very high interest rates for loans to its members? Is this fair? Discuss.
- Find out: What is the role of a federation of SHG groups?

Financial Literacy

Financial Literacy is the process of equipping oneself with knowledge and information on financial matters. Taking interest in financial literacy helps one to have better financial planning, puts them in a better position to achieve their financial goals and protect oneself from frauds and debt traps. It aims to inculcate savings habits, improve the understanding of financial products leading to effective use of financial services and thus helps better money management. Further, financial literacy facilitates easy access to financial services.

Financial literacy material is available on the website of Reserve Bank of India (www.rbi.org.in). The financial literacy material available now covers subjects such as features of genuine bank notes, know your Reserve Bank, how RBI touches the life of the common person, caution against emails/ sms offering huge sums of money from abroad, caution against providing bank account details on internet, information of loan products available from banks, why save with banks?, grievance redressal mechanism, Banking Ombudsman Scheme, caution against depositing money in unincorporated bodies/ un-licensed entities, Deposit Insurance (Are my deposits safe in banks?, What is Deposit Insurance and Credit Guarantee Corporation) etc. Financial literacy information is available in brochures/ pamphlets prepared by RBI and other

banks. Further, RBI has developed comics on financial literacy subjects for the benefit of the school children. 'Raju and the Money Tree', 'Money Kumar and Monetary Policy' etc. are the names of the comics that can be downloaded from the RBI website mentioned above. In addition to the above, for the benefit of word illiterate persons in rural, urban and remote areas, State Level Bankers Committee (SLBC), Andhra Pradesh has prepared an audio CD on the benefits of saving with banks.

Financial Literacy is an important adjunct for promoting financial inclusion, consumer protection and ultimately financial stability. Financial inclusion and financial literacy need to go hand in hand to enable the common man to understand the need and benefits of the products and services offered by formal financial institutions. In India, the need for financial literacy is even greater considering the low levels of literacy and the large section of the population that are still out of the formal financial set-up. Financial literacy has assumed greater importance in recent years as financial markets have become increasingly complex and the common man finds it very difficult to make informed decisions. Further, in view of higher percentage of household savings in our country, financial literacy can play a significant role in the efficient allocation of household savings and the ability of individuals to meet their financial goals.

Key words

1. Demand deposits
2. Economic activities
3. Cooperative societies
4. Commercial banks
5. Informal sources of credit

Improve your learning

1. Most of the credit needs of the poor households are met from informal sources. The dependence of richer households on informal credit is less. Do you agree? Use the data from Table 1 to support your answer.
2. How are high interest rates on loans harmful?
3. What is the basic idea behind the SHGs for the poor? Explain in your own words.
4. Talk to a banker and find out what are the purposes for which people in urban areas generally take loans?
5. What is the difference between the bank loan and through SHG?
6. Read paragraph 3rd under the heading of 'Self Help Group for the Poor' and answer the question. How are SHGs working in your area?

Project

Is there any incident of farmers committing suicide in your area? If so, find out reasons and make a report, discuss in the classroom by adding a few newspaper clippings related to this issue.

You would have heard people talking of prices rising and the difficult situation that they face. Why do people appear agitated and worried with rising prices? Does this happen for most commodities or only for a few things? Does it affect everyone in a similar way? These are some of the issues discussed in this chapter.

Family Budget

Your parents earn their income by doing some work – be it farming, construction work, selling vegetables or groceries, working in an office, shop or factory etc. They buy things for the house and spend on what the household requires. At times they have to borrow from somebody. There's always some plan for the expenditure and how they would manage what is required with the money that they have. This balancing of expenditure to income is called a Budget.

Every family makes a budget – it could be written down, or done mentally. Let us take the budget of a family that sells vegetables in the vegetable market.

Table-1 Subbamma's Budget for January 2013

Receipts		Expenditure	
Earnings in a month	Rs. 10,000	Food items	Rs. 3000
Amount borrowed from relatives	Rs. 2,500	Rent	Rs. 2000
		School fees	Rs. 1500
		Medicines and doctor fees	Rs. 2500
		Bus and auto expenses	Rs. 1500
		Electricity, mobile & other expenses for daily needs	Rs. 2000
Total Receipts	Rs. 12,500	Total Expenditure	Rs.12,500

In the above table you can see income received as earnings by Subbamma's family is shown on the left hand side of the account, and their expenditure on the right hand side. If you add up their expenditure it comes to Rs.12,500 - which is more than their earnings Rs.10,000! So they had to borrow from their relatives (Rs.2500) to cover

this extra expenditure, when their daughter fell ill to cover expenses of medicines etc. This is shown in the second row on the left. In the same way thousands of households prepare their budgets and adjust their consumption on the basis of the income they earn.

How changes in prices affect family budget?

Let us look again at Subbamma family's budget. Supposing next month, their house-owner increases the rent to Rs.2500. At the same time, bus fares and petrol charges also increase, so his family now has to spend to Rs.2000 per month on transport. With the new prices their cost of living has now increased by another Rs.1000. How can his family manage, if there is no increase in their earnings? If they have some savings, they can use that. Otherwise they are compelled to borrow from friends or relatives. But they also have to repay them with interest charges, isn't it?

It could also be true that if Subbamma borrow from close relative, he need not have to pay interest. If they borrow from a money lender, he will have to repay the borrowing with some interest. If it is interest Rs.3 for every Rs.100 or 3% per month, Rs.75 would have to be added every month as interest. Suppose Sathanarayana family is able to repay only after six months, this means, they have to repay Rs.2500 plus Rs.450 i.e. Rs.2950.

One way for them to adjust their budget, is to reduce some of their expenditure. If they cut down the number of trips they use auto, or reduces purchase of some food items, money spent on mobile phone and so on, they can adjust their expenditure to their earnings with the new prices. Because they have reduced their consumption of many goods, their standard of living would fall. This is due to the increase in the cost of living.

People with fixed incomes such as pensioners or daily wage earners, manual workers, small vendors, workers in small enterprises and in private low income jobs, etc. are all badly affected by continuous rise in prices over a period – called inflation. These people's money income does not change when there is inflation. So they are forced to cut down their own consumption. Already their standard of living is very low; now inflation will further reduced their consumption, which pushes them further into poverty.

People are always worried about the rise in prices, because when prices increase it affects their consumption and they have to pay more for everything. Petrol prices increase, bus and auto fares increase, price of groceries, vegetables and milk increase, doctor's fees increase, and so on.

- Tomorrow is teachers' day. Your class students give you Rs.200 send you to the market to buy some sweets and biscuits to celebrate this day with your teachers. When you go to the shop, you find that the price of a sweets packet is Rs.60, and a biscuit packet is Rs.20. If you buy 2 sweets packets, how many biscuit packets can you buy? How much should you pay?
- When you come to school, your class students say, "Why did you buy such few packets? You should have brought 5 of each." They are surprised when you tell them that the prices of the sweets and biscuit packets. "Last year, we paid Rs.30 for a sweets packet and Rs.10 for a biscuit packet," one of them say.
- What has happened in the last one year? Prices of both items have gone up, and for the same amount of money, i.e. Rs.200, you can buy lesser amounts of these commodities.
- Suppose your class students asked you to buy 5 packets of both sweets and biscuits this year also. How much would you have to pay then?
 - For 5 packets sweets = Rs. _____
 - For 5 packets biscuits = Rs. _____
 - Total amount you pay = Rs. _____
 - How much more do you have to pay compared to last year?
- The actual number of goods and services that money can buy is called the purchasing power of money. During inflation real income or purchasing power of money falls down. From the above example last year you could pay Rs.200 for five of each item, but now you have to pay more to buy the same items. Or you have to buy less of both items. So:
 - Last year: $\text{Rs.200} = 5 \text{ packets of sweets} + 5 \text{ packets of biscuits.}$
 - This year: $\text{Rs.200} = 2 \text{ packets of sweets} + 4 \text{ packets of biscuits.}$
 - In other words, the purchasing power or the value of money of Rs.200 has fallen, because you can buy less of both items with the same money, due to the increase in their prices.

When people receive fixed income, they cannot afford to buy the same number of goods as before. They have to reduce their consumption, buy lesser of these goods and services. This affects their standard of living. Standard of living refers to the quantity of material goods and services that ensures a comfortable life.

The standard of living will of course differ from one type of family to another, from one type of profession to another, from one income group to another, and from one country to another. For example, having a car, television and mobile phone may not be considered as a high standard of living in United States of America but people owning these things in India would certainly be considered as people having better standard of living.

Not everyone is affected by rising prices. For some groups this rise in price levels is compensated.

- People working in Central and State Government offices and in some organisations get an additional payment called “Dearness Allowance” or DA. When prices rise by a certain percentage, their salary also increases because the government now pays them more DA. Therefore their income also increases, along with inflation.

- People doing business activities recover the higher cost of living, by increasing the prices of goods they sell. For example, if price of sugar increases, the *mitaiwallah* will increase the prices of sweets, the *chai-wallah* will increase the price of a cup of tea.

- People providing services such as dry cleaners, barbers, lawyers or doctors increase their fees when prices increase. They charge more for their services from their customers, clients or patients.

- Extremely rich persons, working in corporate sector do not get affected by rising prices.

Not all working people get compensated easily for the rise in price of essential goods. For instance, it is common to see agricultural labourers, construction workers or factory workers demand their employers to raise their wages when prices increase. Sometimes, their trade unions are compelled to go for strikes to pay higher wages. On those occasions government intervene and negotiate with employers and workers to arrive at increased wages. For many occupations, government also regularly fixes wages and revises these periodically after considering the changes in price of essential goods (except daily wage workers and hired workers).

How Inflation is measured?

Earlier we had mentioned that continuous rise in prices of goods is known as inflation. But you may have observed that while some prices have increased, others have fallen. For example, the prices of mobile phone rates have been falling, other prices are rising. So overall, can we say that there is inflation in the country or not?

Again, supposing the price of match box increases. Does it really reduce your cost of living? Compare this with the impact of an increase in house rent, or the price of petrol or rice. Supposing the prices of compact disk used in computers to save data fall, how does it affect the budget of a manual worker who may never use

a computer? If the price of an industrial machine increases, how does it indirectly affect the budget of a large number of people?

- Write down the names of some goods or services that are regularly bought by your family. Find out their price today and the price last year. What is the difference? You can ask your parents or teachers for help.

Sl.No.	Goods/Services	Price last year	Price this year	Difference
1				
2				
3				
4				

Price Index Numbers

Change in price is measured with the help of a statistical device referred to as 'price index'. Change in prices of one good does not affect all goods and services in the same way. So how do we measure the overall change in prices? One way is by using an Index Number of Prices. It is constructed in the following way:

The average price of all the goods and services selected in the first year, which is considered as the base year, is given the number 100. If on an average, all the prices of selected goods and services rise by 25 per cent over the previous year, the price index for the second year will be 125. If in the next year, prices of these items rise by 20 per cent over the previous year, the price index will now stand at 150 (20% of 125 + 25 = 150).

Let us understand this through an example. The following table shows price of rice and cotton as paid by government organisations as part of MSP. Read the table carefully and answer the questions that follow.

Table-2 Price Cotton and Rice (per quintal) during 2005-2011						
Crop	2005-06	2006-07	2007-08	2008-09	2009-2010	2010-2011
Rice	Rs. 600	Rs. 610	Rs. 775	Rs. 880	Rs. 980	Rs. 1030
Cotton	Rs.1980	Rs. 1990	Rs. 2030	Rs. 3000	Rs. 3000	Rs. 3000

- Calculate the index numbers of rice and cotton by assuming 2005-06 as the base year
- Draw a line diagram showing index number of rice and cotton. Keep the years in x-axis and index numbers on the y-axis. Discuss how line goes up over the years.
- Compare your graph and index numbers with the graph on page 119 in this chapter.

Index numbers tell us about changes in the sum total of a set of items over time. They only compare these total items in one year, with the same items in another year. In this way, the price index number shows the percentage change in the prices of a set of goods from one time period to another. For instance, we can compare what has happened to our household budget this year or this month, compared to last year or last month. The difference of price level of the two years shows by how much percentage, prices have increased in one year.

It can also be used to compare the price level in one place compared to another. We can compare the price level in Andhra Pradesh with that of other states, like Karnataka, or Maharashtra.

Since there are thousands of goods and services in the economy, we have to choose which goods to include in the price index.

Price Index numbers are of different types, depending on which group of consumers we are looking at – for example we have the Wholesale Price Index (WPI), the Consumer Price Index (CPI). While the WPI includes all goods (capital goods and consumer goods) and changes in their wholesale rates, the CPI measures only changes in prices of a few selected consumer goods at the retail price. In India, different CPIs are published by government:

- a) CPI for industrial workers
- b) CPI for Urban Non-Manual Employees
- c) CPI for Agricultural Labourers

The reasons why there are so many CPIs is because the same set of goods are not consumed by different types of families. For example, the types and quantities of goods and services consumed by industrial workers in towns and cities will differ from rural agricultural labourers. Non Manual or White Collar employees working in offices, banks, or IT companies, consume a different set of goods compared to agricultural labourers.

The CPIs are used to calculate the DA to be paid for government employees, to revise legal wage rates as part of Indian government laws and also to estimate the number of poor in India. Inflation is generally measured on the basis of changes in WPI.

How to construct a CPI?

Let us try to construct a simple Consumer Price Index for some items that you buy for your household consumption.

Let us take Table 3. Now write down the amount of each of the items your parents purchased last month. Let us assume that they are buying the same amount this month also. But this month prices have increased, so the same set of goods will be costlier.

In this table, we have taken four goods, and their prices and quantities purchased.

We show this data for last month in the second and third column. Then we multiply the Price with the Quantity, to get the total expenditure on each item. Then we add up the total expenditure for all items in the last row of column 4.

Table -3 Estimating Consumer Price Index						
This is an example of how CPI can be constructed. Let us assume that your family buys rice, onions, dal, and gas cylinder.						
1	2	3	4= 2 x 3	5	6	7=5 x 6
Goods/Services	Last month's Price Rs.	Last month's Quantity	Expenditure Last month	This month price	This month quantity	Expenditure this month
1. Rice per kg	Rs.30	25 kgs	Rs. 750	Rs.40	25 kgs	Rs. 1000
2. Onions per kg	Rs. 10	5 kgs	Rs. 50	Rs.20	5 kgs	Rs. 100
3. Dal per kg	Rs. 75	4 kgs	Rs. 300	Rs.85	4 kgs	Rs. 340
4. Gas cylinder	Rs. 400	1	Rs. 400	Rs.410	1	Rs. 410
Total Expenditure			Rs. 1500	Total Expenditure		Rs. 1850

In the same way in column 5 we show the price of the same items of this month, and in column 6 we show the quantities purchased this month. Let us keep these quantities the same as last month. Again we multiply each item with its price and show our expenditure on that good in column 7. Now adding up column 7 gives us total expenditure on these 4 goods in this month.

What do you see in Table 4? Your family had purchased these four goods last month at Rs.1500. But for the same set of goods, you now have to pay Rs.1850 this month, because prices of all goods have increased. Compared to the previous month they have increased by Rs.350 i.e. in percentage terms $350/1500 \times 100 = 23.3\%$.

In other words if one assumes Rs 100 was spent by the family last month, this month they would have to spend Rs.123.3. All families with similar consumption pattern the affect on their budget would be similar- they would face a price rise by 23%. The CPI is calculated in the same manner assuming the importance of various items of expenditure in a family's budget. This figure shows the extent of increase in your cost of living.

If the average price level of these four goods last month was 100, it has now increased to 123.3. That means compared to last month, the price level of these 4 items of your household consumption has increased by 23.3% this month.

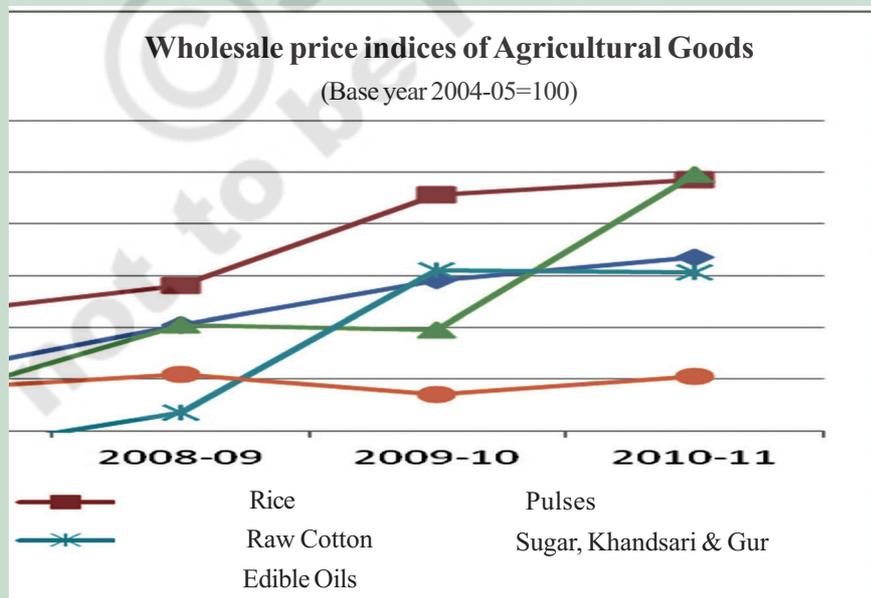
In the actual economy, there are thousands of goods and services being produced and whose prices have been increasing. The government estimates the amount by which the price level has increased in different time periods – mostly every month and every week.

Food Inflation

Since 2009, government began to estimate a new index - Food Price Index (FPI). This index is used to estimate rise in prices of food items called food inflation. The FPI consist wholesale price of food materials such as rice, wheat, pulses, vegetables, sugar, milk, eggs, meat, fish and manufactured food materials such as edible oils. In 2011-12, edible oils accounted for higher food inflation. During that year, about 50 per cent of India's edible oil requirements were met through imports of crude palm oil sunflower oil, soyabean oil and refined palmolein. When the price of these items increased at the international level - in other countries from where we import, Indian consumers also had to pay higher prices. Since government has to take measures to control the rising prices, many research studies were conducted. It was found that the change in the dietary pattern of people has changed considerably in such a manner that their consumption of vegetables, eggs, meat and fish increased recently. Any seasonal shortage causes a price rise since the demand for these products is quite high. People wish to consume them even at a higher cost. It is become a part of their regular diet.

Recent price increases

During 2009-12, prices of many essential goods went up. This you can see from the following figures. Look at the figure carefully and answer the questions that follow.



- If a family was buying rice for Rs. 20 a kg in 2005-06, how much would it have to pay in 2011?
- In which years did the price of pulses increased considerably?
- What is the percentage increase in the price of cotton?
- Which commodity price has been more or less stable?

You are aware that most of petroleum products such as petrol, diesel and kerosene are made from crude oil mostly imported from other countries. The increase in crude petroleum prices along with metal and chemical prices has led to inflation in India. Inflation means general increase in the price of goods and services over a long period. Since these are basically raw materials used to produce consumer goods in India, the increase in their price led to increase in the price of consumer goods.

Role of government in regulating prices

When there is general inflation - a rapid rise in wholesale price index, it is great concern for industrialists. If there is rise in food inflation - it will have direct effect on the living standards of the common people. During high levels of inflation, it is not only that people with low income or fixed incomes suffer and become poor, other people would tend to put their savings money in buying land, gold or some other unproductive purposes due to uncertainty and people's perception that the value of their money is declining day by day.

There is always some inflation taking place in all economies. Due to this the consumers have to pay a higher price. Since the benefits of the increased price will go to the workers who produce those goods, this is considered as good for the country.

At times, traders whose main aim is to earn profit, raise prices of many goods and particularly essential items by illegal ways. If there is no increase in wage for workers who are also consumer in the market, they cannot buy the goods. When these goods happen to be essentials such as wheat, rice, milk etc., this creates problem for the people.

This necessitates the need for regulation of traders and keeping a close watch on them by the government. The government is taking many initiatives in this direction. You may recall Chapter on Agriculture in which you have learnt how government helps farmers by procuring paddy and wheat through Food Corporation of India using Minimum Support Price. This policy helps not only farmers but also is used by the government to regulate the prices of paddy wheat in the market. Similarly governments both at the central and state levels fix price for sugarcane procured to make sugar in cooperative sugar mills. This also is one such a measure used to regulate price of sugarcane in the market.

You might have studied in class VIII about public distribution system. It is used as an important activity of the government not only to ensure food security to the people and particularly the poor ones, but also regulate the prices of essential items. Under PDS, the government has assumed responsibility for the supply of essential commodities like wheat, rice, sugar, edible oils and kerosene. This scheme

is implemented by state government with the help of more than 4.5 lakh fair price shops. The prices of goods sold through Public Distribution System (PDS) are less than that of the market price and the difference in price – or subsidy is borne by the government. Apart from enabling the poor to buy goods from fair price shops, this system controls unscrupulous rise in prices of essential goods in markets.

For preventing hoarding and keeping the prices of essential commodities within reasonable levels, and to facilitate their availability, the government fixes the prices and makes it mandatory for the traders to sell goods in the market at those price levels. Those who do not follow stipulated price levels are penalised by government through various laws. Goods such as kerosene, diesel, Liquid Petroleum Gas, Compressed Natural Gas and Piped Natural Gas are examples of goods whose prices are partly or solely subsidised by the government and sold under Administrative Price Mechanism.

Whenever there is price rise, the Reserve Bank of India which is an apex body for all the banks in India, reduces the money circulation in the economy. This it does through regulating banks – asking banks to lend more or less or allow depositors to withdraw less or more. The RBI along with all the banks under its regulation control the interest payments paid to depositors or received from the depositors. By controlling the interest rate, the amount of money circulated in the country decline. The reduction of money people hold in the whole country decline, results in people's tendency to consume less, which in turn reduces the demand for goods and thereby lowers the prices. However, it takes time to see the impact of steps taken by RBI. At times, when the inflation is caused by rise in the prices of raw materials, measures of RBI become difficult.

When the government decides to reduce the money in circulation, it imposes taxes on high-income groups and on many consumer goods. The intention of the government here also is to reduce the purchasing capacity of the people. When people have less money to spend, their consumption will also fall, which leads to decline in prices.

Government also uses import-export policy to regulate the prices of essential goods. For example, when there is rise in price of food materials, exports of such goods are banned or the quantity of goods exported is restricted. When there is shortage of any material, government procure from other countries and distribute at below market prices through government organisations such as National Agricultural Cooperative Marketing Federation of India Ltd (NAFED) and other cooperatives. Government also use legal mechanisms whenever traders create shortage by hoarding.

Key words

1. Standard of living
2. Inflation
3. Consumer Price Index
4. Wholesale Price Index
5. Administrative Price Mechanism

Improve your learning

1. Why is there a need to regulate prices?
2. How are prices fixed by a seller/producer?
3. Differentiate cost of living from standard of living.
4. Who is affected most by increase in cost of living? Why?
5. Which groups can get higher incomes whenever there is inflation?
6. How is wholesale price index different from Consumer Price Indices?
7. How is food inflation different from Consumer Price Indices?
8. What are the uses of the CPI?
9. List of five problems with measuring CPI.
10. How is Administrative Price Mechanism (APM) different from Minimum Support Price (MSP)?
11. Read sixth paragraph under the heading of 'Role of Government in Regulating Prices' and answer the question.
How does the APM affect the government revenue? Discuss.
12. Take any five goods or services used by your family and construct a consumer price index for your family based on these five goods/services.

1	2	3	4=2 x 3	5	6	7=5 x 6
Goods/Services	Last month's Price Rs. This month	Last month's Quantity	Expenditure Last month	This month price	This month quantity	Expenditure this month
1.	Rs.		Rs.	Rs.		Rs.
2.	Rs.		Rs.	Rs.		Rs.
3.	Rs.		Rs.	Rs.		Rs.
4.	Rs.		Rs.	Rs.		Rs.
5.	Rs.		Rs.	Rs.		Rs.
Total Expenditure			Rs.	Total Expenditure		Rs.
CPI: _____ %						
By how much has your total expenditure changed compared to last month? _____						

13. Write True or false against the statement:

(a) Inflation increases the standard of living of the people. []

(b) Value of money is shown by changes in its Purchasing Power. []

(c) Change in cost of living does not affect the standard of living of pensioners []

(d) Central Government workers are compensated for inflation by rise in DA []

(e) WPI measures changes in the price level of only consumer goods. []

14. The following table shows the wholesale Price Indices of Industrial Goods. Prepare a line diagram and answer the questions that follow.

Year	Coal	Cotton cloth	Fertilizers	Cement	Iron, Steel & Ferro Alloys
2005-06	118	99	102	102	100
2006-07	118	97	104	119	105
2007-08	122	99	106	138	119
2008-09	151	103	107	139	137
2009-10	156	107	108	149	124
2010-11	165	115	117	151	136

(a) Which commodity's price rose steeply over the years?

(b) What could be the reasons for a slow rise of cotton cloth and fertilizers?

(c) Does government play any role of any of the above commodities? How?

Role of the Government

In most modern societies, the government is responsible for a number of crucial functions. These include the more traditional functions like defending the country and maintaining internal law and order.

In addition, the government has to take responsibility of setting up and running schools, colleges, libraries, health centers, hospitals, post offices and a variety of other public institutions. The public transport system and the infrastructure of roads and railways are constructed and maintained by the government. In providing water, sanitation, electricity facilities the government has to play an active role. Facilities like healthcare and sanitation, electricity, public transport, schools and colleges are known as public facilities.

The important characteristic of a public facility is that once it is provided, its benefits can be shared by many people. You have read about this in Class VIII. For instance, a school in a village will enable many children to get educated. Similarly, the supply of electricity to an area can be useful for many people: farmers can run pump sets to irrigate their fields. Factories, offices, shops and markets require a reliable source of power to run. Students will find it easier to study and most of the people whether in a village or a town will be benefited in some way or the other. These public facilities have to be available to all and at an affordable rate. Governments have the responsibility for this. It may take up the work on its own or get it organised.

Besides the provision of public facilities, the government has the responsibility towards protection of livelihoods. You have read about the Right to Work and the MGNREGA in rural areas. The Act mandates that it is the responsibility of the government to provide manual work on demand and the wages to the workers and the capital needed are to be paid by the government. The distribution of food grains at fair prices in the PDS shops is organised and the costs borne by the government. As we have seen, these are critical for the food security of the poor.

The Indian government in the past has also played a major role in setting up heavy industries such as heavy engineering, power generation, production of steel, extraction and refining of petroleum etc. without which industrialisation would have been very difficult. You read more about these basic industries in Chapter 7 in this book.

- In your city/ town/ village, what are the roles that you have seen the government playing? Discuss.
- Collect and list out some details of government expenditure from reading the newspapers of your region.
- Can you guess from where the government gets money for public facilities and other activities?

Subsidies

Money paid by government to reduce the cost of certain important goods such as fertilizers, foodgrains, diesel and other important goods so that their prices can be kept low and affordable to all.

In rural areas, investments on irrigation projects and agricultural extension works by the government are crucial for farming. The government also helps farmers by selling fertiliser at a lower price than what would have been otherwise by the factories. The government compensates factories to some extent so that the final price of fertilizers is affordable by farmers. This money paid by the government to the factories is the subsidy for fertilisers. If this was not there the price charged by the factories would have been much more. Similarly the government provides subsidies for many products, by compensating the producer, so that the price is kept affordable, especially for those who need it most. In this way it subsidises the price of kerosene, food grain from ration shops, LPG gas cylinders etc. These days there's a lot of debate on how effective these subsidies have been. Are they benefitting people? Are there better ways of organising them? You'll read about some of these issues in this chapter.



Fig. 11.1: Some government activities

To fulfil the various roles, the government must have adequate money. The money required for the different functions of the government is collected from the people in the form of taxes. There are a variety of taxes that the government collects, about which we shall study in the next sections. The taxes collected constitute the

revenues of the government. Revenues are necessary to finance the expenditures of the government. The Annual Budget presented before the Parliament by the Finance Minister gives the expected expenditure by the government on its various programmes for the coming year. It also states that how these expenditures are going to be met through various revenue collections. Similarly in each state assembly the state government presents the budget for that state.

Expenditures by the Government

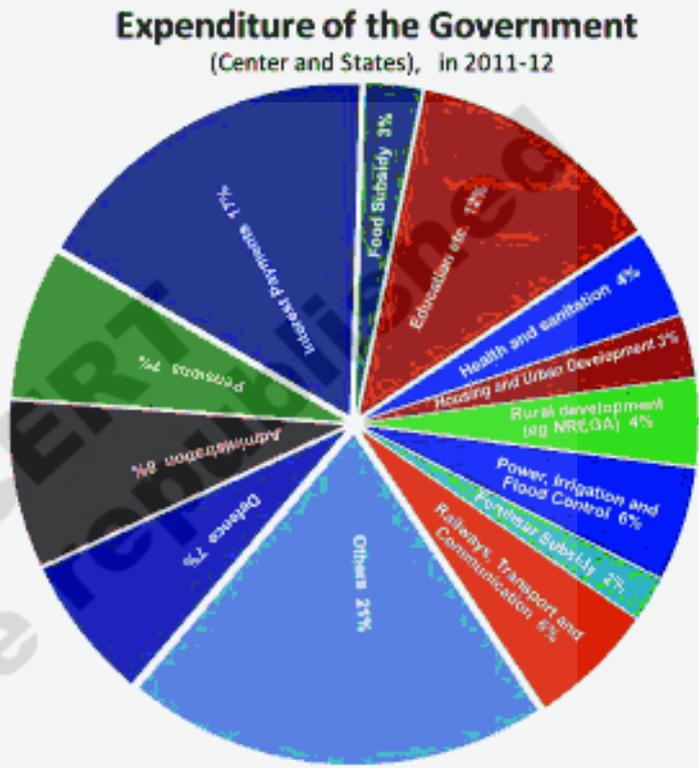
Let us look at the actual expenditure of the Indian government to get a sense of how and how much money the government spend on us. In 2011-12, the government spent around Rs. 23,00,000 crores (23 lakh crores). This seems to be a lot of money and indeed it is. Nearly one-fourth of the total spending in the Indian economy is by the government. Rest of the three-fourth of the spending is by the private sector – households that spend on food, education, travel, cloth, housing, health, entertainment etc; and businesses whether it is a manufacturing or a service that have to spend on raw materials, machines, other products, wages and salaries to employees, sales and marketing and other expenses for running the business.

The pie-chart gives the proportion in which this money was spent across various expenditure heads by the government in India in the year 2011-12, i.e. the 1st April 2011-31st March 2012. Here the Government refers to both Central government and all the State governments. In the year 2011-12, 12% of the total expenditure was on education, art and culture. This includes both salaries of employees, running costs of schools and colleges, etc. as well as new investments like construction of new school buildings, purchase of new computers, books etc.

Similarly, 4 % of total spending was on health and sanitation; 4% was on rural development, and so on.

When you look at the pie-chart, you will notice that besides spending on development activities, there are certain other expenditures, like administration, pension, interest and defence. These do not contribute to development directly, but they are necessary. To run its various departments, programmes and the organs of the state (legislature, executive and judiciary), there are expenditures on administration. The government also pays pensions to workers who are retired from the government. Then, there are expenditures on interest payments. Since every year the Indian government has to borrow some money to meet its expenditure, it has to pay interest on its past borrowings.

How much the government spends on health versus defence depends on the policy priorities of the government and people's voice. Every year, around the time



of the budget and once the budget is presented you would have seen there is a lot of media attention on these issues. Though the decisions on budgetary spending is mostly taken by the government, consultations happen between the government and industry groups, farmer groups, civil society activists etc. Groups representing certain sections of the people voice their views, demands and at times their disagreements before the government. It is through pressures of this kind that the people have demanded greater spending on social sectors, such as education, health, food subsidy etc.

The check on the government on matters of budget is ensured through legislative control. The Parliament has to debate the various issues of the budget that has been placed before it and approve the expenditure proposals of the government. The Parliament has to allow the government to withdraw money for its expenditures. Similarly, no tax can be levied except by the authority of the law passed by Parliament. Thus, as per the Constitutional requirement, the elected representatives of the people have an important say in the budgetary decision-making.

- Using the information in the above section calculate the expenditure of the government on food subsidy? Discuss on what all was this money spent and the purpose for this?
- With the help of your teacher, try to relate some of the expenditures in the pie-chart to the roles played by the government as discussed in Section 1.
- In the year 1947-48, the budget for independent India was only Rs.197 crores. What would be the various reasons for such a large increase in budget since then?
- Why do you think the Parliament has been given power over the government's budget?
- There have been continuous attempts by the government to reduce fertiliser subsidy. This means that the government would no longer control the price of fertiliser. Farmers would have to buy fertilisers at the higher market price. At present, the government has to pay (compensate) the fertiliser producing companies for the losses that they make. Once fertiliser subsidy is removed it is said this would make space for other important expenditures in the government budget. Also some argue that subsidised fertiliser does not benefit the small farmer but only encourages the large farmers to overuse it.

Imagine you are a farmer using fertilisers in farming, and you genuinely believe that the farmers need subsidized fertiliser. How would you argue your case? Write a letter to the Finance Minister.

Taxes

Taxes are the main source of revenue for the government. There are a variety of taxes collected by the government. You might have heard about some of these like VAT (Value Added Tax), service tax, excise duty, income tax, property tax, customs duty etc. The taxes can broadly be classified into two categories: indirect taxes and direct taxes.

Indirect Taxes

Indirect taxes are charged on goods and services. You would have seen alongside the printed Maximum Retail Price (MRP) of goods is written “inclusive of taxes”. It means that the price includes taxes. Similarly, for most services like telephone and mobile phone services the price that consumers pay includes taxes.

Let us see how the taxes work by taking the example of a few important taxes.

Excise duty is charged on goods that are produced or made in factories. Before the goods manufactured in a factory can leave the factory gate, excise duty on the goods produced has to be paid. The owner or the manager of the factory pays the money (tax) to the government according to the amount of production.

Excise duty is charged from the factory itself, but in reality the tax is passed to those who buy the goods. The factory owners sell their goods after adding to the price what they pay in tax. The cost of manufacturing a TV is, say, Rs. 10,000. The company paid an excise duty of Rs. 1200 to the government. This will get included in the price at which the TV is finally sold and the consumer bears the tax.

While all taxes on goods add to the price, taxing certain goods raises the overall prices more. For example, to manufacture bicycles, steel pipes are needed. In order to make steel, the steel factory needs iron and coal. If excise duty (tax) on iron is increased, it will have an effect on cycles as well. The prices of all goods made of iron will go up. And since iron is used to make steel, the prices of all things made of steel will also go up. In this way, a tax increase on iron has far reaching effects.

Thus taxing heavily on basic raw materials and goods used by many other factories - intermediate goods-sets up a chain reaction and all things which are connected to this good, in one way or the other are affected.

After production the goods passes through a chain of sellers (wholesaler/distributor/ retailer). While excise duty is levied on manufacture of goods, sales tax is charged when goods are sold. Next time you receive a proper bill for your



- Petrol, diesel, etc. are used to run vehicles, motor pumps, generators sets etc. What will happen if the tax on diesel and petrol goes up?

purchases of goods, you will see that the price includes a VAT (Value Added Tax). VAT on your bill refers to the sales tax, which the retailer has to pay to the government. Like the excise duty, the retailer passes on the sales tax to the consumer and the consumer pays a higher price.

Let us look at the example of the TV mentioned earlier to see how the taxes add up to the price. All figures are in Rupees.

Cost of manufacturing including profit of the manufacturer	Rs. 10,000
Excise Tax	1,200
Cost of Transport, Storage and Retail	1,000
Profit to the traders	1,000
Sales tax	1,650
Price for the consumer	14,850

The proportion earned as profits and the taxes paid would vary from one good to another good and also from one state to another state. The important thing to remember is that most goods carry an element of tax as part of its price. Similarly, most services are taxed, so that their final price includes a tax element. The tax on services is called service tax.

Some common examples of service tax include: speed post, telephone/mobile communication, restaurants, AC class/first class train travel.

Another major tax on goods, called customs duty, is charged on goods when we import it from other countries. For example, a person is returning from a foreign trip and has bought a new camera from abroad. At the airport in our country, she will have to pay a customs duty. Many factories need machines or raw material to be bought from foreign countries. On these things too, customs duty has to be paid.

- In the example of TV, what proportion of the cost of the TV did the consumer pay as tax?
- Collect some bills which mention taxes. Collectively make a collage of the taxes on goods. Make a separate collage of taxes on services with the help of your teacher. See if there are other kinds of taxes that you come across.
- If there are two people manufacturing the same goods and one of them evades paying taxes, what advantages could he/ she get over the other?
- If the tax on iron is increased, which other things will this affect? Give some examples.

Indirect Taxes as Value Added Tax (VAT)

- Tara bought two hard drives for her school computers from Sai Ram Computers. The bill gave the total sale value before VAT at Rs.5,000. To this VAT was added at the rate of 5%. After adding the VAT amount of Rs.250, the total sale price including VAT was Rs.5250.

- Sajida has bought an inverter battery for her house. The shopkeeper gave Sajida a bill, which says:
- When Preeti paid for the LPG cylinder she noticed that the bill mentioned VAT as zero.

Particulars	Amount (in Rs.)
Battery	9,165
Add VAT at 12.5%	1,146
Total	10,311

There is no VAT charged on LPG in some cities in India such as Delhi.

Over the last decade, the tax on goods has gradually been shifted towards a Value Added Tax system, hence the name VAT. This is done for both excise and sales tax. Let us read the following example to understand what it means.

Suppose there is a biscuit manufacturer. She regularly purchases raw materials for production from a reliable person. The supplier from whom she purchases gives her a bill that says:

	Cost of materials	Tax	Total bill Paid
Raw Materials like wheat, flour, sugar etc.	Rs. 90	10	Rs. 100

Now, suppose she produces biscuits at a cost of Rs 450. This includes all the costs that she has incurred- cost of materials, wages for staff and labour, rent for office and factory etc. She adds Rs 50 as her own profit. So Rs.500 is the value of the output now. She sells the biscuits to a distributor. Remember the manufacturer will have to pay taxes on selling his biscuits. Let the tax rate be 10%. How much tax does she have to pay?

Under the old system, the biscuit manufacturer would have to pay Rs.50 (i.e., 10% of Rs.500) to the government. In total then, the government has collected Rs. 10 + 50 as tax. Rs10 was paid by the supplier and included in the bill that she paid.

Under the system of Value Added Tax (VAT), the producer only pays tax on the value added. Rs.500 is the worth of the output. And Rs.100 is the worth of the input for production (raw materials). The value added is simply the difference between the value of output and input, which is Rs.400 in this case. At the rate of 10%, he has to pay Rs.40 as tax. The inputs used in production that have already been taxed once are not taxed again. In this system the government will collect Rs 10+ 40 =50 as tax, on the whole.

You can see that the tax paid by the manufacturer under Value Added Tax system is smaller since she does not have to pay tax on inputs. Production of industrial goods go through long chains and depend on many goods produced in different factories. In the value added system inputs are not taxed again. Hence in this system the total tax on goods is less and therefore it should cost less.

There is another advantage of Value Added Taxes. All producers and traders will have to keep genuine record of their sale and purchase. Everyone has to keep proper records and ask for bills for purchase. It is only on this basis they can show the tax already paid on cost of inputs. The tax department (tax inspectors) will be able to match records of the seller and purchaser for verification. Non-payment of tax, which is very common, is expected to be more difficult.

- What is your opinion about the value added taxes? Discuss.
- Fill in:
The purchases by Tara, Sajida and Preeti show _____ tax rates across goods. (same/ different)
Can you guess why this should be so?

Direct Taxes

We pay taxes on goods and services that we buy/consume. We have seen how the producer or the trader adds the taxes to the final prices, which consumers have to pay. As the goods pass through a number of stages of production and sale, at each step the taxes are paid to the government. However, the total tax is finally passed to the consumer. Thus, taxes on goods and services are also called indirect taxes. Consumers pay it, but indirectly.

In addition, there are taxes, which are directly charged to individuals directly on their income or directly on the profits earned by companies and business. These taxes have to be paid directly by the individuals or businesses to the government and hence are called Direct Taxes.

There are two important direct taxes – Income Tax and Corporate Tax.

Companies that run factories or businesses have to pay taxes. Companies or businesses, receive money from the sale of their products or services. After subtracting all expenses (on raw materials, salaries etc.) from their earnings, the portion that remains is known as the profit of that company or factory. On this profit, corporate tax has to be paid according to the rules.

Income tax is charged on personal income of individuals. There can be a variety of sources of individual incomes like wages, salaries and pensions. An individual can also earn interest income on money that is kept in banks. A person might also get rent on properties that he owns, like house rent. All these are considered as incomes on which taxes have to be paid. Income tax is charged only for those who earn above a certain amount. This is charged as a percentage of the income earned. Those who earn a higher income have to pay a greater proportion of their income as tax.

What is the fair way of collecting tax from income?

1. You might think it would be fair for everyone to pay the same amount of tax. Consider the following three people:

Person	Work	Earning per month (in Rupees)	Tax as fixed amount per month (in Rupees)
Jyoti	Daily wage labourer	1500	50
Asif	School teacher	8000	50
Nithesh	Business person	30,000	50

Would it really be fair if each of the three people has to pay the same amount? If Jyoti cannot even afford to feed her children properly, is it fair for her to pay 50 rupees as tax?

2. You might think it would be more fair to ask each person to pay a certain percentage of what they earn as tax. Supposing everyone paid 10% in taxes, calculate how much each person would pay.

Person	Earning per month (in Rupees)	Tax as fixed amount per month (in Rupees)
Jyoti	1500	
Asif	8000	
Nithesh	30,000	

Would this be fair? Still Jyoti may not have enough to live. Asif may not have enough for repairing of his house. But Nithesh would have plenty of money for all basic necessities even if he had to pay 20% of his income as taxes.

3. To make taxes more fair you might then say only people earning more than a certain amount say Rs. 7000 per month have to pay taxes. You might also say that the richest people should pay greater proportion of their earnings as taxes. For example

If you earn	You will pay as tax
Less than 7000	0%
7001 to 15000	10%
15,001 to 25,000	20%
More than 25,000	30%

Calculate how much each person will pay.

Person	Earning per month (in Rupees)	Tax as fixed amount per month (in Rupees)
Jyoti	1000	
Asif	6000	
Nithesh	20,000	

Would this be fair?

Fairness in Taxation

What kind of taxation we follow depends on the values that the society as a whole holds. Most societies feel that it is not fair that a few people have lakhs of rupees, while others don't have enough to eat. The government should collect more taxes from the rich, and the poor should not be taxed or taxed minimally. If the society as a whole aspires, the taxes so collected can be spent, to raise the income of the poor by providing better opportunities and living conditions. Notice that as the incomes of the poor improve more taxes can be collected!

As in the example of Jyoti, Asif and Nithesh, in most countries across the world, the government taxes those with a higher income at a higher rate. According to rules of income tax, those with higher incomes have to pay greater part in tax. Those who are less well-off pay not only lower taxes, but a smaller proportion of their income as taxes. Hence direct taxes are preferred but in India, as you read in the previous section, the major source of tax is indirect i.e. on goods and services. Whether rich or poor, everyone has to pay the same amount of tax when buying something. The poor “feel the pinch” as they say.

While levying taxes on goods and services it becomes difficult to distinguish between the poor and the rich. There is however a way by which the distinction between some goods can be made. For example, grains, pulses, vegetables, cloth, kerosene, cooking oil, cooking gas etc. are goods that are essential. Rich or poor, everyone buys them but the poor spend almost all of their income on these goods. Then there are goods and services which only the rich can purchase: cars, laptops, air-conditioner, dining in restaurants, etc. It is difficult for the poor to afford these luxuries. Hence one way to distinguish between the rich and the poor is not to tax the essential things but to tax luxury items. (Remember what may be considered as luxury may become necessities in the future as living conditions improve etc.)

The problem is that since not many people can afford to buy these luxury items, taxing only such things cannot bring much income to the government.

There is another consideration that the government has to keep in mind in taxing goods and services. There are a number of goods and services that are not directly used by people, such as diesel, steel, aluminium, machines, trucks, truck tyres etc. Such things are used in making or transporting other things. You can imagine the large number of places - industries, factories and businesses where these might be used. People do not buy them directly for consumption.

We saw that when tax is increased on things such as steel, diesel etc, this increase gets added to the cost of goods which are made out of them or transported with their help. With this, even the poor who buy grain or cloth have to pay some part of the tax on diesel or steel. When such things are taxed, the price of many other things goes up. Thus we often hear people saying:

“The increase in the price of petrol and diesel has led to an all round increase in prices. Fruits, vegetables, pulses and other food items, for example, have become more expensive.”

For this reason the question that troubles everyone each year is: which taxes should be increased more? Taxes can be collected more easily on goods, but except for luxury items, taxing essential goods affects the poor greatly. Taxes charged and collected have a strong impact on people’s lives. The tax on income falls more heavily on the rich and therefore can be considered more fair. But the taxes from income might not be enough to cover the large government expenditure. Any budget has to take into account all these considerations. That is why the time of the budget is of great importance for everyone.

Collection and Evasion of Taxes

The government gets money from many kinds of taxes. It has to decide how much money to collect through each kind of tax. For this it has to consider: how many people would have to pay; whether this tax can be collected easily; how would it affect rich and the poor. A related question is whether people pay their taxes or evade it.

You know that a large number people in our country depend on agriculture. Most of them are small and medium farmers. There are also some large farmers with high incomes. However all agriculture income is exempted from tax. Similarly a large section of people in the country earn very low income whether from trade

- We read about some of the major taxes collected by the government. Fill in the table from the information given. Income Tax: 12%; Corporation Tax: 24%; Customs Duty: 10%; Excise Duties: 16%; Service Taxes: 5%; Sales Tax: 23%; Other Indirect Taxes: 10%.

Taxes Collected by the Government

Taxes	Percentage of Total Tax
Direct Taxes	36%
Indirect Taxes	
Total Taxes	100%

1. Which kind of taxes generates more revenues for the government?
2. Kanti has an income of Rs. 1,75,000 per year and has to pay an income tax of Rs. 3000. Kamlesh's annual income is Rs.3,00,000 and he has to pay an income tax of Rs.5,500.
 - Who pays more income tax?
 - Who has to pay a larger part of the income as tax?
 - In such a situation the person with higher income is paying a _____ (smaller/ greater/ equal) part of the income in tax.

or running small shops or providing labour. The income of these people would be below the limit for income tax. Thus the percentage of total number of people who could be paying income tax is small.

Even this small percentage of people of a large population implies that tax has to be collected from a sizable number of people. For example in 1997 the incomes of 114 lakh individuals were assessed for income tax. They would be living in different places in the country. Collecting income tax is not easy. There are many hurdles. Many people do not disclose their entire income or show it to be less than what it actually is. This income, which is kept hidden, is known as black money.

Many factory owners, rich moneylenders, traders, those doing private business can easily show a low income. It is easy to calculate the income of those who are paid monthly salaries. Tax on their income is directly deducted at the source from where they get their salaries. But many salaried persons also have other sources of income which they keep hidden. Such people, whether they are workers, officers, ministers or clerks, often do not disclose their income correctly. Because there is no tax on income from agriculture many wrongly show their income as income from land and therefore evade tax.

Thus there are many 'tax evaders' and the black money, that is the money on which tax should have been paid but wasn't, goes on accumulating. To get hold of this hoard of black money, the income tax department raids many people's places. It has also tried to make the procedures more convenient for people to pay their own tax. Despite these efforts a large number of people do not pay income tax, or pay less than they should.

On the other hand taxes on goods can be collected more easily since there are fewer places from where it has to be collected. Excise duty is collected from factories, customs duty from international airports and seaports and sales tax from traders and shopkeepers. As compared with income tax to be paid by individuals, the government finds it easier to keep a track of these factory records or shops.

Even here there are those who try to escape taxes by showing lower production than has actually taken place. Sales tax is evaded on a wide scale. Some traders, by not issuing proper bills or recording it in their official registers show much lower sales than what actually occurred. VAT as we saw in this chapter is intended to reduce the evasion of taxes on goods and services.

Key words

- | | | |
|------------------|----------------|--------------------|
| 1. Annual budget | 2. Black money | 3. Value Added Tax |
| 4. Corporate tax | 5. Direct tax | 6. Indirect tax |
| 7. Income tax | | |

Improve your learning

1. Why does the government need a budget? Why does the budget talk of taxes?
2. What is the difference between income tax and excise duty?
3. Match the following:
 - i. Excise duty a) levied on the yearly income of individuals.
 - ii. Sales tax b) levied on the yearly profit of companies and business establishments.
 - iii. Customs duty c) levied on the production or manufacture of goods
 - iv. Income tax d) levied when goods are sold.
 - v. Corporate tax e) levied on goods brought from abroad
4. You are expected to tax on steel, matches, clocks, cloth, iron; a tax increase on which of these would affect the prices of other commodities the most, and why?
5. Ordinary food items, such as grain, pulses, oil are used by all. Then why is it said that imposing tax on them will have a greater effect on the poor?
6. A group of four friends decided to stay together by contributing money towards the rent of a house. The rent was Rs.2000 per month.
 - How could this be shared among them?
 - We also know that two of them earned Rs.3000 per month and the other two Rs.7000 per month. Is there some other way of sharing the cost so that each one of them feels the same pinch?
 - Which way of sharing would you prefer and why?
7. Tax on income or tax on commodities. Which of the two affects the rich more and which affects the poor more? Explain with reasons.
8. How would VAT reduce the evasion of taxes on goods?
9. What is the difference between the Excise duty and Customs duty?
10. Is there any hike in the bus fares recently? If so, try to know the reasons for it.
11. Read the paragraph under the heading 'Direct Taxes' (Income Tax is charged only for ...) and answer the following:

Why do high income earners pay more tax?

Project

Bring a few wrappers of soaps, toothpastes, tablet strips or any other things which contain MRP. Discuss the rate mentioned and the rate to which they are sold. Talk about the profit that the retailer gets.

Changing Cultural Traditions in Europe 1300-1800

The Medieval World in Europe

During the ancient period, Europe was dominated by the Roman Empire which controlled much of Europe, Turkey and Egypt for a long time. Great cities like Rome and Alexandria flourished. The culture that had been developed in Greece and Rome - the sculpture, painting, buildings as well as literature, philosophy and science was of a very high order. When the Roman Empire declined after 400 AD, there were no large empires in Western Europe. The cities too had declined and most people lived in villages. Trade was minimal. Europe came to be dominated by a social system called Feudalism. Under feudalism, political power was with large warrior-landlords who controlled the villages and peasants. The peasants were mostly 'serfs' who were bound to their lords and had to till the lands of the lords, work in their workshop and also fight for them in wars. They also had their own lands and sustained their families by working on them too. The lords were constantly at war with each other and this created a lot of insecurity for the peasants. Culture of people came to be dominated by the Roman Catholic Church which emphasised adherence to Christian faith. It discouraged people from thinking for themselves and asked them to believe what the priests told them. The great cultural achievements of the Ancient period were forgotten and lost.

This situation began to change after 1300 AD. The peasants had begun to resist and fight against serfdom and control of the lords and the Church. For example, there was a great revolt of the peasants in England in 1381 which ended serfdom in England. Similar movements were taking place in other countries too. The control of the lords and the church over people had begun to change and people enjoyed more freedom. Long distance trade between European countries and China, Arabia, India and Egypt was reviving and many new towns and cities sprung up in Europe where traders and artisans lived. Many of these cities were politically independent and ruled themselves through municipalities.

Periods in European History

Ancient Period - upto 400 AD

Medieval Period - 400 AD to 1300 AD

Early Modern Period - 1300 to 1800 AD

Modern Period - 1800 to present

Note that these are rough dates.

Different historians may use different dates.

A new cultural movement began to develop in Europe which is called Renaissance or rebirth. People began to go beyond the limits set by religious priests and raised new questions and found new ways of answering those questions. Traders and adventurers set out on long voyages to find out new routes and lands. New trends in art, painting, sculpture and literature developed. Science too developed rapidly. People also started questioning religious authorities and wanted to find simpler and direct ways of reaching God. We will study in detail about all this in this chapter.

- You have read about the zamindari system and *vetti* in Hyderabad state in Class VIII. Compare it with 'serfdom' in Europe.
- How do you think trade helps in the development of towns?
- Do you think there is a greater possibility of knowing new ideas and trying out new things in towns rather than villages? Discuss.

Renaissance

There is a vast amount of material on European history from the fourteenth century - documents, printed books, paintings, sculptures, buildings, textiles. Much of this has been carefully preserved in archives, art galleries and museums in Europe and America. Historians study these to understand what was happening and how and why they happened.

From the nineteenth century, historians used the term 'Renaissance' to describe the cultural changes of this period. The historian who emphasised these most was a Swiss scholar - Jacob Burckhardt (1818-97) of Switzerland. In 1860, he wrote a book called 'The Civilisation of the Renaissance in Italy', in which he called his readers' attention to literature, architecture and painting to tell the story of how a new 'humanist' culture had flowered in Italian towns from the fourteenth to the seventeenth century. This culture, he wrote, was characterised by a new belief - that man, as an individual, was capable of making his own decisions and developing his skills. He was 'modern', in contrast to 'medieval' man whose thinking had been controlled by the Church.

- In the view of Burckhardt, which of these would be associated with modern view and which would be medieval view?
Faith in the ability of human beings to know and decide for themselves
Faith in the Religious books and priests
Faith in divine revelation
Faith in human reason

The Revival of Italian Cities



Map 1: The Italian States.

With the expansion of trade between the Byzantine Empire and the Islamic countries, the ports on the Italian coast revived. From the twelfth century, as the Mongols opened up trade with China and as trade with western European countries also increased, Italian towns played a central role. They no longer saw themselves as part of a powerful empire, but as independent city states. Two of these - Florence and Venice - were republics, and many others were court cities, ruled by princes.

One of the most vibrant cities was Venice, another was Genoa. They were different from other parts of Europe - the clergy were not politically dominant here, nor were there powerful feudal lords. Rich merchants and bankers actively participated in governing the city, and this helped the idea of citizenship to strike root. Even when these towns were ruled by military despots, the pride felt by the towns people in being citizens did not weaken.

- Locate Republics and three court cities on the outline map of Italy.

Clergy: Members of the Church - the priests, bishops, cardinals and the Pope

Humanism and Universities

The literature of the ancient Greeks had reflected an interest in life. They had been vitally interested in the world in which they lived. Later, students of the ancient Greek literature, which dealt with the nature and interests of man, were called Humanists. They became interested in this world rather than in a future life as the scholars of the Middle Ages had been. Everything in nature, science, and the arts that affected man now was important to the Humanists.

In 1453, Constantinople was overthrown, and the Turkish, or Ottoman Empire took the place of the Eastern Roman Empire. Many of the educated men who spoke Greek fled to Italy for safety. Some of them brought their Greek books with them. This increased interest among Italians in the ancient Greek Literature and language so that it became quite the fashion in Italy to know a little Greek.

Humanism started in Italy but soon spread into France, England, and the Netherlands. Universities were established to teach new subject-law and religions. Educated men became interested. One of the greatest of these was the Dutchman Erasmus (1466-1536). He studied earnestly the New Testament in the original Greek and the writings of the early Greek Christians. He criticised some of the beliefs of the Church, which he said were based on superstition, in his book, *Praise of Folly*. During the Renaissance, the humanist scholars acquired the books from the Arabs and retranslated them into Greek and Latin and studied them.

- Who were the humanists, what did they teach?

Artists and Realism

The Humanist ideas extended to art and architecture too. In the sphere of visual arts like painting and sculpture this took the form of 'realism'. Artists observed nature, the people and places around them and sought to represent them as they were. This was very different from the spirit of the religious art promoted by the Church in the feudal times. The religious art emphasised religious themes and depicting people and things according to some ideal forms. Art was supposed to represent those ideals and not the reality around them. Now the artists of Renaissance began to portray themes from around them, from Greek and Roman literature which showed the feelings, power and strength of human beings. One implication of this trend was to study the real world of nature and human beings.

Artists also began to study remains of Roman culture - their buildings, sculpture etc. Their admiration for the figures of 'perfectly' proportioned men and women sculpted so many centuries ago, made Italian sculptors want to continue that tradition. In 1416, Donatello(1386-1466) broke new ground with his lifelike statues. Artists' concern to be accurate was helped by the work of scientists. To study bone

structures, artists went to the laboratories of medical schools. Andreas Vesalius (1514-64), a Belgian and a professor of medicine at the University of Padua, was the first to dissect the human body. This was the beginning of modern physiology.

"Art" is embedded in nature; he who can extract it, has it... The more closely your work abides by life in its form, so much the better will it appear... No man shall ever be able to make a beautiful figure out of his own imagination unless he has well stored his mind by much copying from life.' - Albrecht Durer (1471-1528)

This sketch by Durer (Praying Hands) gives us a sense of Italian culture in the sixteenth century, when people were deeply religious, but also had a sense of confidence in man's ability to achieve near-perfection and to unravel the mysteries of the world and the universe.



Fig. 12. 1: The statue 'The Pieta' by Michelangelo depicts Mary holding the body of Jesus.

Many artists like Leonardo da Vinci studied human anatomy so as to make their painting and sculpture realistic.

Painters found that knowledge of geometry helped them understand perspective, and that by noting the changing quality of light, their pictures acquired a three dimensional quality.

Perspective - a way of depicting different things on a painting so that we can feel the depth in the painting. This is done by showing objects in front as larger and objects behind as smaller.

The use of oil paint as a medium for painting also gave a greater richness of colour to paintings than before. In the

colours and designs of costumes in many paintings, there is evidence of the influence of Chinese and Persian art. Thus, anatomy, geometry, physics, as well as a strong sense of what was beautiful, gave a new quality to Italian art, which was to be called 'realism' and which continued till the nineteenth century.

The Church too now encouraged the new art. Popes and other leaders of the Church commissioned great artists like Michelangelo and Raphael to paint for them and also design buildings for them and even make elaborate graves and memorials for them.



Leonardo da Vinci (1452-1519) had an amazing range of interests from botany and anatomy to mathematics and art. He painted the Mona Lisa (*on left*) and The Last Supper. One of his dreams was to be able to fly. He spent years observing birds in flight, and designed a flying machine. He signed his name 'Leonardo da Vinci, disciple of experiment'.

Architecture

The city of Rome revived in a spectacular way in the fifteenth century. The Popes actively encouraged the study of Rome's history. They studied the ruins of old Roman buildings to revive the old Roman style which used tall pillars, arches and domes in buildings. This inspired a 'new' style in architecture, which was actually a revival of the imperial Roman style – now called 'classical'. Popes, wealthy merchants and aristocrats employed architects who were familiar with classical architecture. Artists and sculptors were also to decorate buildings with paintings, sculptures and reliefs. Another remarkable change was that from this time, artists were known individually, by name, not as members of a group or a guild, as earlier.



Fig. 12.2: St Peter's Square, Rome and the basilica. This Church and the court in front of it was designed by several artists including Michealngelo and Bernini. This uses many architectural ideas from Ancient Rome.

Some individuals were skilled equally as painters, sculptors and architects.

- Describe the different scientific elements in the work of sixteenth century Italian artists.

The most impressive example is Michelangelo (1475-1564) – immortalised by the ceiling he painted for the Pope in the Sistine Chapel, the sculpture called 'The Pieta' and his design of the dome of St Peter's Church, all in Rome.

Filippo Brunelleschi (1337-1446), the architect who designed the spectacular Duomo of Florence, had started his career as a sculptor. Italian architecture in the sixteenth century copied many features of imperial Roman buildings.

The Printing Press



Johannes Gutenberg

If people in other countries wanted to see paintings, sculptures or buildings of great artists, they had to travel to Italy. But in the case of the written word, what was written in Italy travelled to other countries. This was because of the greatest revolution of the sixteenth century – the mastery of the technology of printing. For this, Europeans were indebted to other people - the Chinese, who first developed paper and printing with blocks.

Earlier, texts existed in a few hand-written copies. In 1455, 150 copies of the Bible were printed in the workshop of Johannes Gutenberg (1400-1458), the German who made the first printing press. Earlier, a monk would have taken the same amount of time to write out one copy of the Bible!

By 1500, many classical texts, nearly all in Latin, had been printed in Italy. As printed books became available, it was possible to buy them, and students did not have to depend solely on lecture-notes. Ideas, opinions and information moved more widely and more rapidly than ever before. A printed book promoting new ideas could quickly reach hundreds of readers. This also made it possible for individuals to read books, since it was possible to buy copies for oneself. This

- There was no printing press in India during the same period. Let us suppose Krishnadeva Raya wrote a book. How do you think it would have reached scholars in different parts of India?
- What do you think would have been the reaction of kings and priests to the Printing Press? Would they have welcomed it or would they have been worried by it?

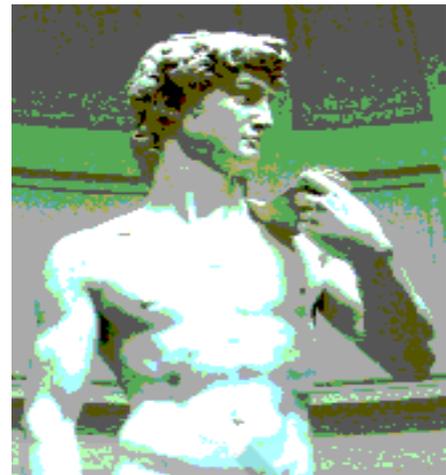
developed the reading habit among people. The chief reason that the humanist culture of Italy spread more rapidly in Northern and Western Europe from the end of the fifteenth century is that printed books were circulating. This also explains why earlier intellectual movements had been limited to particular regions.

A New Concept of Human Beings

One of the features of humanist culture was a weakening of the control of religion over human life. Italians were strongly attracted to material wealth, power and glory, but they were not necessarily irreligious. They considered the acquisition of power, wealth and bodily pleasure as desirable and not something to be avoided.

There was also a concern at this time with good manners – how one should speak politely and dress correctly, what skills a person of culture should learn. Humanism also implied that individuals were capable of shaping their own lives through means other than the mere pursuit of power and money. This ideal was closely tied with the belief that human nature was many-sided.

Niccolo Machiavelli wrote a book on politics for rulers of his times. He did not try to advise the rulers about religious ideals of ruling but how real politics functioned in society. He studied real human beings and their actual political life.



Statue of David by Michelangelo

- The Renaissance was considered a New Age, because people considered it proper to pursue pleasure, seek wealth and comfort and also act in self interest. This was in contrast to teachings of religions that one should not act in self interest and forsake comfort and wealth. Do you agree with this view point of the Renaissance humanists?

Scholars like Machiavelli began a study of human society as they were instead of trying to just say what an ideal society should be like. Since they felt that human beings were motivated by self interest, they studied self interest of people and how it could be used.

The Aspirations of Women

The new ideal of individuality and citizenship excluded women. Men from aristocratic families dominated public life and were the decision-makers in their families. They educated their sons to take their place in family businesses or in public life, at times sending their younger sons to join the Church. Although their dowries were invested in the family businesses, women generally had no say in how their husbands should run their business. Often, marriages were intended to strengthen business alliances. If an adequate dowry could not be arranged, daughters were sometimes sent to convents to live the life of a nun. Obviously, the public role of women was limited and they were looked upon as keepers of the households.

The position of women in the families of merchants, however, was somewhat different. Shopkeepers were very often assisted by their wives in running the shop. In families of merchants and bankers, wives looked after the businesses when the male members were away on work. The early death of a merchant compelled his widow to perform a larger public role than was the case in aristocratic families.

A few women were intellectually very creative and sensitive about the importance of humanist education. 'Even though the study of literature promises and offers no reward for women and no dignity, every woman ought to seek and



Isabella d'Este

embrace these studies' wrote the Venetian Cassandra Fedele (1465-1558). She was one of a handful of women who questioned the idea that women were incapable of achieving the qualities of a humanist scholar. Fedele was known for her proficiency in Greek and Latin, and was invited to give orations at the University of Padua.

Fedele's writings bring into focus the general regard for education in that age. She was one of many Venetian women writers who criticised the republic 'for creating a highly limited definition of freedom that favoured the desires of men over those of women'.

Another remarkable woman was the Marchesa of Mantua, Isabella d'Este (1474-1539). She ruled the state while her husband was absent, and the court of Mantua, a small state, was famed for its intellectual brilliance. Women's writings revealed

- In what way do you think women of those times have benefitted from studying Greek and Roman books?

their conviction that they should have economic power, property and education to achieve an identity in a world dominated by men.

Debates within Christianity (Reformation)

Trade and travel, military conquest and diplomatic contacts linked Italian towns and courts with the world beyond. The new culture was admired and imitated by the educated and the wealthy. Very few of the new ideas filtered down to the ordinary man who, after all, could not read or write.

You had seen earlier that the Church had dominated the religious and cultural life of people in medieval times. In this process it had become very powerful and rich and also corrupt. Humanist scholars began attacking this and questioning the need for a priesthood and its interpretation of Christianity.

In the fifteenth and early sixteenth centuries, many scholars in universities in north Europe and members of the Church too were attracted to humanist ideas. Like their Italian colleagues, they too focused on classical Greek and Roman texts along with the holy books of the Christians. In northern countries, the humanist members of the Church called on Christians to practise religion in the way laid down in the ancient texts of their religion, discarding unnecessary rituals, which

they condemned as later additions to a simple religion. Theirs was a radically new view of human beings as free and rational agents. Later philosophers were to return to this over and over again, inspired by the belief in a distant God who created man but allowed him complete freedom to live his life freely, in pursuit of happiness 'here and now'. Christian humanists like Thomas More (1478 -1535) in England and Erasmus (1466-1536) in Holland felt that the Church had become an institution marked by greed, extorting money at will from ordinary people. One of the favourite methods of the clergy was to sell 'indulgences', documents which apparently freed the buyer from the burden of the sins he had committed. Christians came to realise from printed translations of the Bible in local languages that their religion did not permit such practices.



Holbein-Erasmus

The Sixteenth and Seventeenth Centuries : A Time line

1516 Thomas More's Utopia published	1569 Gerhardus Mercator prepares cylindrical map of the earth
1517 Martin Luther writes the Ninety-Five Theses	1582 Gregorian calendar introduced by Pope Gregory XIII
1522 Luther translates the Bible into German	1628 William Harvey links the heart with blood circulation
1525 Peasant uprising in Germany	1673 Academy of Sciences set up in Paris
1543 Andreas Vesalius writes on Anatomy	1687 Isaac Newton's Principia Mathematica published
1559 Anglican Church established in England, with the king/queen as its head	

In almost every part of Europe, peasants began to rebel against the taxes imposed by the Church. While the common folk resented the extortions of churchmen, princes found their interference in the work of the state irritating.

In 1517, a young German monk called Martin Luther (1483-1546) launched a campaign against the Catholic Church and argued that a person did not need priests to establish contact with God. He asked his followers to have complete faith in God, for faith alone could guide them to the right life and entry into heaven. This movement - called the Protestant Reformation - led to the churches in Germany and Switzerland breaking their connection with the Pope and the Catholic Church. In Switzerland, Luther's ideas were popularised by Ulrich Zwingli (1484-1531)

and later by Jean Calvin (1509-1564). Backed by merchants, the reformers had greater popular appeal in towns, while in rural areas the Catholic Church managed to retain its influence. Other German reformers, like the Anabaptists, were even more radical: they blended the idea of salvation with the end of all forms of social oppression. They said that since God had created all people as equal, they were not expected to pay taxes and had the right to choose their priests. This appealed to peasants oppressed by feudalism.

A major achievement of the reformists was to translate the Bible into the popular languages of the people and printing large quantities and making them available to all people. Earlier Bible was only in Latin which ordinary people did not understand.

The ideas of Reformation took hold of many people in Germany, Holland, France and England. In all these countries people with diverse faith or interpretations of Christianity emerged. Thus the monopoly of the Catholic Church was for ever broken.

The Catholic Church itself did not escape the impact of these ideas, and began to reform itself from within. In Spain and in Italy, churchmen emphasised the need

- What were the issues on which the Protestants criticised the Catholic Church?
- Do you see any similarity between the Bhakti movement in India and the Protestant movement? Do you also see any differences between the two of them?

for a simple life and service to the poor. In Spain, Ignatius Loyola, in an attempt to combat Protestantism, set up the Society of Jesus in 1540. His followers were called Jesuits, whose mission was to serve the poor and to widen their knowledge of other cultures.

Beginning of the Modern Science

The Middle Ages had accepted as authority the knowledge of the past handed down from former generations. Most men were not interested in investigating the world in which they lived. The few who were interested used strange mixtures of magic and superstition. But Roger Bacon was a serious searcher for truth. He performed some experiments with metals and chemicals and probably had a crude microscope. He worked out theories that suggested the practical usefulness of many inventions that have since been made, including steamships, automobiles and airplanes. Despite Bacon's work, the true scientific spirit did not develop until late in the Renaissance.

Long after Roger Bacon, a Polish astronomer, Nicolaus Copernicus (1473-1543), made use of the scientific method. He built an observatory from which he patiently studied the heavens. He concluded that the old theory of the universe was wrong. This theory, taught by the Hellenistic geographer Ptolemy said that the earth is the center of the universe and the stars, sun, and planets revolve around

it. Copernicus claimed that the earth is one of a number of planets that revolve around the sun. The Church rejected the new theory as contrary to the teachings of the Bible and the Church. It seemed to rob man of his dignity because he was no longer in the very heart of a universe that had been made for him.

Galileo (1564-1642), an Italian genius, perfected a telescope that made it possible for him to see a ship fifty miles away as clearly as though it were only five miles away. This instrument also aided in the study of astronomy. Galileo was a very popular and brilliant lecturer and writer. Discussing the theories of Copernicus, he told his audiences how he himself had seen the moons of Jupiter and the revolution of the planet on its axis. For this work he was summoned to appear before a Church court, where he was compelled to take back all his teachings or suffer long imprisonment and probably torture. It is said that as he left the trial he was heard to mutter, "But the earth does move." Galileo also discovered certain laws of the pendulum which made it possible to develop more satisfactory clocks. In experiments from the Learning Tower of Pisa he proved that heavy and light objects fall at the same speed.



Fig. 12.3: Galileo explaining his theories of universe with telescope.

Galileo also discovered certain laws of the pendulum which made it possible to develop more satisfactory clocks. In experiments from the Learning Tower of Pisa he proved that heavy and light objects fall at the same speed.

- Who were the chief Renaissance scientists, and what work did each of them contribute to science?

Explorations of sea routes

During the Renaissance, Europeans extended their limited knowledge of Geography. There were several reasons for this. The compass and the astrolabe, which helped sailors the direction they were going and their location, had been invented. Ships were improved so that they were more seaworthy. The more thoughtful sailors now doubted that they would fall off the edge of the earth if they went too far out to sea. Better maps were made for their guidance, too. Constantinople fell into the hands of the Turks in 1453 and the trade routes between the West and East were closed. All these conditions stimulated an interest in geography and willingness, sometimes even an eagerness, to explore the new sea routes.



Map 2: Geographical explorations.

The navigators of Portugal and Spain played an important part in the geographical explorations. Prince Henry the navigator of Portugal discovered a sea route to western coast of Africa. Finally, Bartholomew Diaz, a very able Portuguese navigator sailed around the Cape of Good Hope at the southern most point of Africa. Vasco Da Gama went around Africa and landed in Calicut, India in 1498. India had finally been reached by sailing around the vast African continent.

Christopher Columbus determined to find new route to the east. He believed that the eastern shores of Asia lay across the dark Atlantic, and so he set out with three small ships to get there. After a long, dangerous voyage, Columbus reached land on an island on October 12, 1492. He thought he had reached the East Indies and called the natives, Indians. Amerigo Vespucci an Italian sailor, followed Columbus. He confirmed that the new world discovered (America) by Columbus was quite different from Asia.

Ferdinand Magellan a sailor of Spain made the voyage round the world with the help of Spanish King Charles I. He crossed the Atlantic, went around the southern tip of South America and sailing through the straits, he reached the Pacific Ocean and landed at the Islands of Philippines. This voyage was great landmark in the history of exploration of the sea routes.

- Read the map 2 and prepare a list of explorations of sea routes.

Was there a European 'Renaissance' in the Fourteenth Century?

Let us now reconsider the concept of the 'Renaissance'. Can we see this period as marking a sharp break with the past and the rebirth of ideas from Greek and Roman traditions? Was the earlier period (twelfth and thirteenth centuries) a time of darkness?

Recent writers, like Peter Burke of England, have suggested that Burckhardt was exaggerating the sharp difference between this period and the one that preceded it, by using the term 'Renaissance', which implies that the Greek and Roman civilisations were reborn at this time, and that scholars and artists of this period substituted the pre-Christian world-view for the Christian one. Both arguments were exaggerated. Scholars in earlier centuries had been familiar with Greek and Roman cultures, and religion continued to be a very important part of people's lives.

To contrast the Renaissance as a period of dynamism and artistic creativity, and the Middle Ages as a period of gloom and lack of development is an oversimplification. Many elements associated with the Renaissance in Italy can be traced back to the twelfth and thirteenth centuries. It has been suggested by some historians that in the ninth century in France, there had been similar literary and artistic blossoming.

The cultural changes in Europe at this time were not shaped just by the 'classical' civilisation of Rome and Greece. The archaeological and literary recovery of Roman culture did create a great admiration of that civilisation. But technologies and skills in Asia had moved far ahead of what the Greeks and Romans had known. Much more of the world had become connected, and the new techniques of navigation enabled people to sail much further than had been possible earlier. The expansion of Islam and the Mongol conquests had linked Asia and North Africa with Europe, not politically but in terms of trade and of learning skills. The Europeans learned not just from the Greeks and Romans, but from India, Arabia, Iran, Central Asia and China. These debts were not acknowledged for a long time because when the history of this period started to be written, historians saw it from a Europe-centred viewpoint.

An important change that did happen in this period was that gradually the 'private' and the 'public' spheres of life began to become separate: the 'public' sphere meant the area of government and of formal religion; the 'private' sphere included the family and personal religion. The individual had a private as well as a public role. He was not simply a member of one of the 'three orders'; he was also a person in his own right. An artist was not just a member of a guild, he was known for himself. In the eighteenth century, this sense of the individual would be expressed in a political form, in the belief that all individuals had equal political rights.

Another development was that the different regions of Europe started to have their separate sense of identity, based on language. Europe, earlier united partly by the Roman Empire and later by Latin and Christianity, was now dissolving into nation states, each united by a common language.

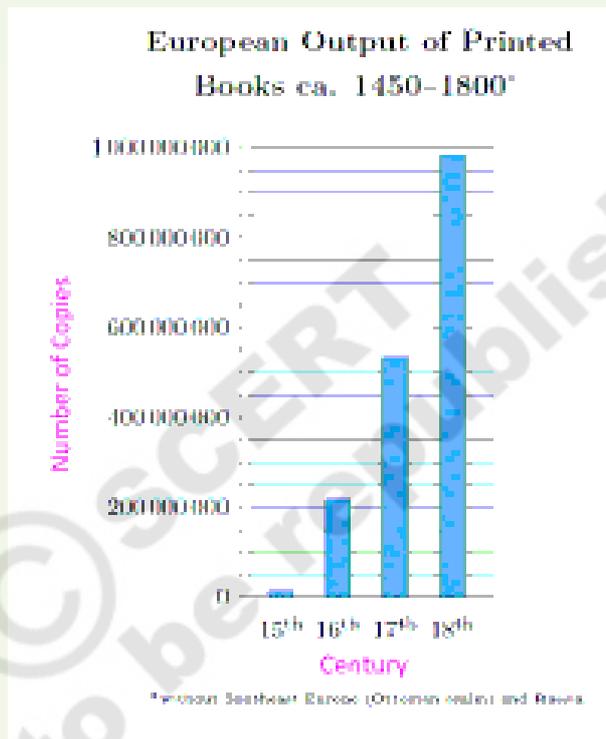
Key words

- | | | | |
|--------------|----------------|----------------|-------------|
| 1. Feudalism | 2. Serfs | 3. Renaissance | 4. Humanism |
| 5. Realism | 6. Reformation | 7. Protestant | |

Improve your learning

1. Discussion on Renaissance in this chapter was mostly in the context of _____ (England/Italy/France/Germany)
2. Write a sentence or phrase about the changes in ideas listed below during Renaissance.
 - a. Humanists: from _____ to _____
 - b. Books: from _____ to _____
 - c. Paintings: from _____ to _____
 - d. Human beings: from _____ to _____ -
 - e. Women: from _____ to _____

3. How did printing of the Bible influence the ideas about God and Church?
4. Compare the modern Italian towns with that of the Medieval towns. Do you notice any changes in their present names?
5. Which elements of Greek and Roman culture were revived in the fourteenth and fifteenth centuries?
6. Why were Italian towns the first to experience the ideas of humanism?
7. What were the features of humanist thought?
8. The following graph indicates the increase in book production. What can you tell about it?



9. Do you agree with the following statement; "Printed books continue to dominate our lives" Give reasons for your answer.
10. Write an account of how the world appeared different to seventeenth century Europeans.
11. Mention two outstanding features of the renaissance architecture.

Project

1. Collect pictures of great Renaissance artists and prepare an album.
2. Prepare a play on debate between Galileo and a priest who did not believe that the earth went around the sun.
3. Study the various ways in which we use products of the printing press today and prepare a detailed report.

Democratic and Nationalist Revolutions

17th and 18th Centuries

England – The Glorious revolution

England like any other country of Europe was ruled by Kings and Queens at the beginning of 17th century. All the regions of Britain (England, Wales, Scotland and Ireland) had been united by the Tudor dynasty kings. The Tudors refused to accept the authority of the Pope who was the head of Roman Catholic church. This was in a sense beginning of British nationalism - the idea that the British were a distinct people who should have autonomous of the Pope and Roman Catholic Church. Soon however, a conflict emerged between the Parliament and the King as to who had the supreme power in the kingdom; landowners and merchants, elected representatives to the Parliament; and the king needed the approval of such Parliament to levy any tax. Let us see how this conflict paved the way for a democratic government in Britain.

In 1603 James I of Stuart Dynasty became the King of England. He disputed the powers of Parliament to question him. He believed that the absolute powers of the king were given by God and Kings ruled by Divine Right and therefore they should not be controlled by the Parliament. He was succeeded by Charles I, who dissolved the Parliament and ruled for 11 years without Parliament. In 1640, he was forced to convene the Parliament for giving special grants as he needed money to fight some wars. This Parliament which continued from 1640 to 1660 (and hence called the Long Parliament) decided to control the despotism of the King and his ministers. The Long Parliament punished the ministers and officers of Charles I. It abolished the special courts created by the King. Charles I took advantage of differences within the Parliament and tried to arrest his opponents. A Civil War started between parliamentary party and the king's party, which lasted for 5 years. Ultimately, Charles I was



Charles I

Civil War: internal war in a country

defeated and executed in 1649 and England became republic. This experiment of republican government did not last long and eventually in 1688, William of Orange and his wife Mary (grand daughter of Charles I) were invited by the Parliament to occupy the throne of England. A new arrangement was worked out by which ministers were responsible to the Parliament. And the powers of the King were restricted. Thus

Parliament supremacy was established and paving way for democracy. Now the power of the king was not a divine right but it was conferred by Parliament. The supreme power was transferred to Parliament. All this took place without shedding a drop of blood or firing a single shot. This transformation therefore is known as '**Glorious**' or '**Bloodless Revolution**'.

You may remember that the people with land and property only could vote in the elections to the Parliament. The seats in different areas had not been allocated according to the population. As a result many low population areas had many seats while high population areas did not have any seat. The common people of England began to agitate for the right to vote and for reforms in the system. In 1832, the voting rights were extended to more people and some of the anomalies were removed. The right to vote was gradually extended to different sections of the population and eventually to all adults by 1928. Thus Parliamentary form of government in England grew in stages.

- Write an imaginary dialogue between persons from a king's party and parliamentary party in our context
- What was the effect of the Civil war on the king and the people of the England?

American Independence 1774-1789

England had developed colonies on the eastern coast of North America. Thirteen states of colonisers had been established there. Most of them were occupied by people from England who had settled in America to cultivate land, run small workshops and conduct trade. The English Parliament assumed powers to make laws for the American states but the people of those states did not vote for the Parliament. The Parliament often passed laws that favoured English traders and factories at the cost of the people of the colonies. The American colonies therefore raised the slogan '**No Taxation Without Representation**'. In 1774, representatives from all colonies except Georgia met in protest at a Congress at Philadelphia. They requested King George III to restore to the colonies their previous rights. The King's attempts to suppress the colonies led to armed clashes between the British and the American soldiers. The Second Congress also tried for a peaceful solution. They appealed to the King not to impose taxes without their consent. The King regarded this as an act of rebellion and declared war in April 1775. The Americans finally won the war in October, 1781 with the military assistance of France. The War of Independence came to an end with the signing of the Treaty of Paris (1783). By this treaty, Britain recognised the independence of its thirteen colonies.



Thomas Jefferson

Republic: Where the head of the state is a democratically elected president, not a monarch.



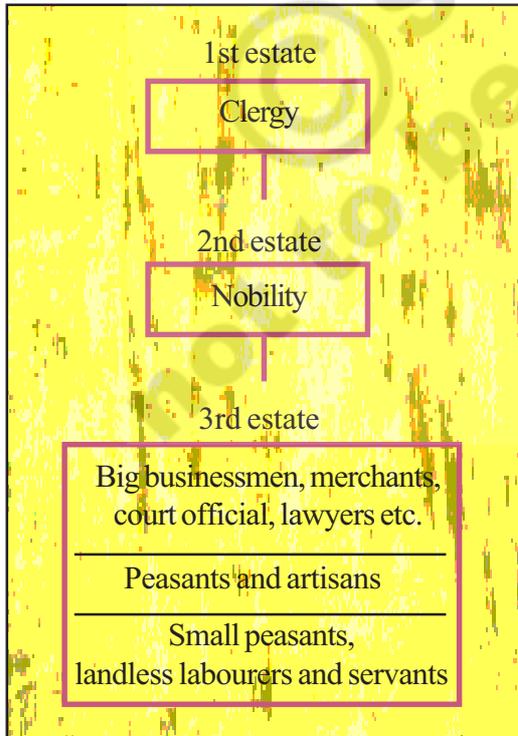
Fig. 13.1: The first image is called 'Columbia'. This was replaced with Statue of Liberty to symbolise USA.

The Declaration of Independence was adopted on 4th July 1776, during the Third Congress at Philadelphia. Thomas Jefferson was the author of the Declaration. It declared that all men are created equal and are endowed by the Creator with certain inalienable rights, including life, liberty and pursuit of happiness. In 1789, the national government of the United States of America adopted a Republican Constitution. The division of powers between states and federal government was introduced with the efforts of Jefferson. A Bill of Rights was adopted

guaranteeing the freedom of speech, religion, and rule of law were enacted. This paved way for the establishment of the United States of America (U.S.A.).

French Revolution

In 1774, Louis XVI ascended the throne of France. He was 20 years old and married to the Austrian princess Marie Antoinette. Upon his accession the new king found an empty treasury. Long years of war had drained the financial resources of France. Added to this was the cost of maintaining an extravagant court at the immense palace of Versailles. Under Louis XVI, France helped the thirteen American colonies to gain their independence from the common enemy, Britain. The war added further to the debt. To meet its regular expenses, such as the cost of maintaining an army, the court, running government offices or universities, the state was forced to increase taxes. Yet even this measure would not have sufficed. French society in the eighteenth century was divided into three estates, and only members of the third estate paid taxes. The society of estates was part of the feudal system that dated back to the middle ages of France before 1789.



A Society of Estates.

Note that within the Third Estate some were rich and others poor.

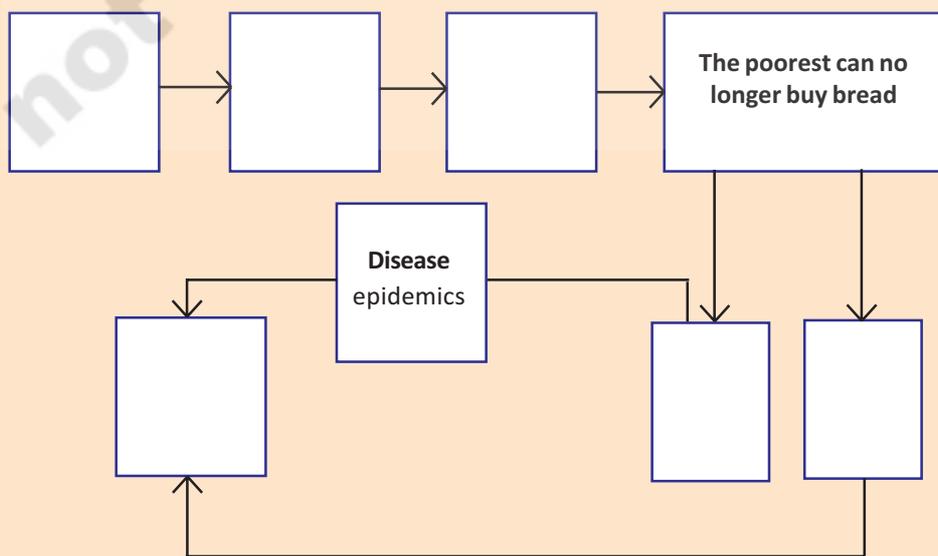
The chart shows how the system of estates in French society was organised. Peasants were about 90 per cent of the population. However, only a small number of them owned the land they

cultivated. About 60 per cent of the land was owned by gentry, the Church and other richer members of the Third Estate. The members of the first two estates, that is, the clergy and the aristocracy, enjoyed certain privileges acquired by birth. The most important of those was the exemption from paying taxes to the state. The nobles further enjoyed feudal privileges. These included feudal dues, which they extracted from the peasants. Peasants were obliged to render services to the lord - to work in his house and fields and to serve in the army or to participate in building roads.

The Church too extracted its share of taxes called 'tithes' from the peasants, and finally, all members of the Third Estate had to pay taxes to the state. These included a direct tax, called 'taille' and a number of indirect taxes which were levied on articles of everyday consumption like salt or tobacco. The burden of financing activities of the state through taxes was borne by the Third Estate alone. This problem was compounded by failure of crops and increased sufferings of the poor during those years.

New words	
Livres	- Unit of currency in France, discontinued in 1794.
Clergy	- Group of persons invested with special functions in the church.
Tithes	- A tax levied by the church, comprising one-tenth of the agricultural produce.
Taille	- Tax to be paid directly to the state.

- Fill in the blank boxes in the figure below with appropriate terms from among the following: **Food riots, scarcity of grain, increase number of death, rising food prices, weaker bodies.**



A Growing Middle Class: Envisages an End to Privileges

In the past, peasants and workers had participated in revolts against increasing taxes and food scarcity. But they lacked the means and programmes to carry out full-scale measures that would bring about a change in the social and economic order. This was left to those groups within the Third Estate which had become prosperous and had access to education and new ideas.

The eighteenth century witnessed the emergence of new social groups, collectively termed the middle class. They earned their wealth through expanding means of overseas trade and from the manufacture of goods such as woollen and silk textiles. In addition to merchants and manufacturers, the Third Estate included professions such as lawyers or administrative officials. All of these were educated and believed that no group in society should be privileged by birth. Rather, a person's social position must depend on his merit. Philosophers such as John Locke and Jean Jacques Rousseau envisaged a society based on freedom and equal laws and opportunities for all. In his **Two Treatises of Government**, Locke sought to refute the doctrine of the divine and absolute right of the monarch. Rousseau carried the idea forward, proposing a form of government based on a social contract between people and their representatives. In **The Spirit of the Laws**, Montesquieu proposed a division of power within the government between the legislature, the executive and the judiciary. This model of government was put into force in the USA, after the thirteen colonies declared their independence from Britain. The American constitution and its guarantee of individual rights was an important example for political thinkers in France.

The ideas of these philosophers were discussed intensively in salons and coffee-houses and spread among people through books and newspapers. These were frequently read aloud in groups for the benefit of those who could not read and write. The news that Louis XVI planned to impose further taxes to meet the expenses of the state generated anger and protest against the system of privileges.

The Outbreak of the Revolution



Fig. 13.2: Opening ceremony of the Estates General at Versailles on 5th May 1789.

Louis XVI had to increase taxes for reasons you have learnt above. How do you think he could have gone about doing this? In France of the Old Regime, the monarch did not have the power to impose taxes according to his



Fig. 13.3: The Tennis Court Oath.

Sketch of a large painting by Jacques-Louis David. The painting was intended to hung in National Assesmbly.

will alone. Rather he had to call a meeting of the Estates General which would then pass his proposals for new taxes. The Estates General was a legislative body to which the three estates sent their representatives. However, the monarch alone could decide when to call the meeting of this body. The last time it was done was in 1614.

On 5 May 1789, Louis XVI called together an assembly of the Estates General to pass proposals for new taxes. A resplendent hall in Versailles was prepared to host the delegates. The First and Second Estates sent 300 representatives each, who were seated in rows facing each other on two sides, while the 600 members of the Third Estate had to stand at the back. The Third Estate was represented by its more prosperous and educated members. Peasants, artisans and women were denied entry to the assembly. However, their grievances and demands were listed in some 40,000 letters which the representatives had brought with them.

Voting in the Estates General in the past had been conducted according to the principle that each estate had one vote. This time too Louis XVI has determined to continue the same practice. But members of the Third Estate demanded that voting now be conducted by the assembly as a whole, where each member would have one vote. This was one of the democratic principles put forward by philosophers like Rousseau in his book **The Social Contract**. When the King rejected this proposal, members of the Third Estate walked out of the assembly in protest.

The representatives of the Third Estate viewed themselves as spokesmen for the whole French nation. On 20 June, 1789 they assembled in the hall of an indoor tennis court in the grounds of Versailles. They declared themselves a National Assembly and swore not to disperse till they had drafted a Constitution for France that would limit the powers of the monarch.

While the National Assembly was busy at Versailles drafting a Constitution, the rest of France seethed with turmoil. A severe winter had meant a bad harvest;

Manor: An estate consisting of the lord's lands and his mansion.

Chateau : Castle or stately residence belonging to a king or a nobleman.

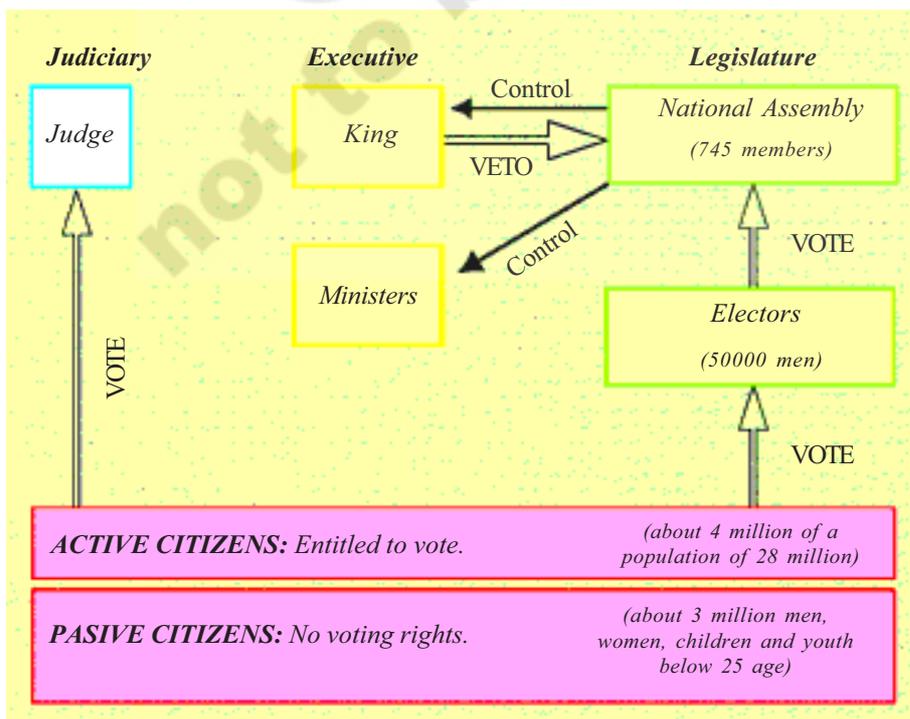
the price of bread rose. Bakers exploited the situation and hoarded supplies. After spending hours in long queues at the bakery, crowds of angry women stormed into the shops. At the same time, the King ordered

troops to move into Paris. On 14 July, the agitated crowd stormed and destroyed the Bastille, a hated prison that had come to represent the absolutist monarchy.

In the countryside rumours spread from village to village that the lords of the manor had hired bands of brigands who were on their way to destroy the ripe crops. Caught in a frenzy of fear, peasants in several districts seized hoes and pitchforks and attacked chateau. They looted hoarded grain and burnt down documents containing records of manorial dues. A large number of nobles fled from their homes, many of them migrating to neighbouring countries. Faced with the power of his revolting subjects, Louis XVI finally accorded recognition to the National Assembly. He accepted the principle that his powers would from now on be checked by a Constitution. On the night of 4 August 1789, the Assembly passed a decree abolishing the feudal system of obligations and taxes. Members of the clergy too were forced to give up their privileges. Tithes were abolished and lands owned by the Church were confiscated. As a result, the government acquired assets worth at least 2 billion livres.

France Becomes a Constitutional Monarchy

The National Assembly completed the draft of the Constitution in 1791. Its main object was to limit the powers of the monarch. These powers instead of



The political system under the Constitution of 1791

being concentrated in the hands of one person, were now separated and assigned to different institutions - the legislature, executive and judiciary. This made France a constitutional monarchy.

The above figure explains how the new political system worked. The Constitution of 1791 vested the power to make laws in the National Assembly, which was indirectly elected. That is, citizens voted for a group of electors, who in turn chose the Assembly. Not all citizens, however, had the right to vote. Only men above 25 years of age who paid taxes equal to at least 3 days of a labourer's wage were given the status of active citizens, that is, they were entitled to vote. The remaining men and all women were classed as passive citizens. To qualify as an elector and then as a member of the Assembly, a man had to belong to the highest bracket of taxpayers.

The Declaration of Rights of Man and Citizen



1. Men are born and remain free and equal in rights.
2. The aim of every political association is the preservation of the natural and inalienable rights of man. These are liberty, property, security and resistance to oppression.
3. The source of all sovereignty resides in the nation; no group or individual may exercise authority that does not come from the people.
4. Liberty consists of the power to do whatever is not injurious to others.
5. The law has the right to forbid only actions that are injurious to society.
6. Law is the expression of the general will. All citizens have the right to participate in its formation, personally or through their representatives. All citizens are equal before it.

7. No man may be accused, arrested or detained, except in cases determined by the law.

11. Every citizen may speak, write and print freely; he must take responsibility for the abuse of such liberty in cases determined by the law.

12. For the maintenance of the public force and for the expenses of administration a common tax is indispensable; it must be assessed equally on all citizens in proportion to their means.

17. Since property is a sacred and inviolable right, no one may be deprived of it, unless a legally established public necessity requires it. In that case a just compensation must be given in advance.

(Note: Important rights are given)

- Compare the political rights which the Constitution of 1791 [See box on page 159] gave to the citizens with Articles from 1 to 6 of the Declaration (see page 160). Are the two documents consistent? Do the two documents convey the same idea?
- [Look at chart on page 159] Which groups of French society would have gained from the Constitution of 1791? Which groups would have had reason to be dissatisfied?
- Imagine the impact of the events in France on neighbouring countries such as Prussia, Austria-Hungary or Spain, all of which were absolute monarchies. How would the kings, traders, peasants, nobles or members of the clergy here have reacted to the news of what was happening in France?

The Constitution began with a Declaration of the Rights of Man and Citizen. Rights such as the right to life, freedom of speech, freedom of opinion, equality before law, were established as 'natural and inalienable' rights. This means that the rights belonged to each human being by birth and could not be taken away. It was the duty of the state to protect the citizen's natural rights.

The situation in France continued to be tense during the following years. Although Louis XVI had signed the Constitution, he entered into secret negotiations with the King of

Prussia. Rulers of other neighbouring countries too were worried by the developments in France and made plans to send troops to put down the events that had been taking place there since the summer of 1789. Before this could happen, the National Assembly voted in April 1792 to declare war against Prussia and Austria. Thousands of volunteers thronged from the provinces to join the army. They saw this as a war of the people against kings and aristocracies all over Europe.

Large sections of the population were convinced that the revolution had to be carried further, as the Constitution of 1791 gave political rights only to the richer sections of society. Political clubs became an important rallying point for people who wished to discuss government policies and plan their own forms of action. The most successful of these clubs was that of the Jacobins, which got its name from the former convent of St Jacob in Paris.

Convent: Building belonged to a community devoted to a religious life.

The members of the Jacobin club belonged mainly to the less prosperous sections of society. They included small shopkeepers, artisans such as shoemakers, pastry cooks, watch-makers, printers, as well as servants and daily-wage workers. Their leader was Maximilian Robespierre.

In the summer of 1792 the Jacobins planned an insurrection of a large number of Parisians who were angered by the short supplies and high prices of food. On the morning of August 10 they stormed the Palace of the Tuileries, massacred the king's guards and held the king himself as hostage for several hours. Later the

Assembly voted to imprison the royal family. Elections were held. From then on, all men of 21 years and above, regardless of wealth, got the right to vote.

The newly elected assembly was called the Convention. On 21 September 1792 it abolished the monarchy and declared France a Republic. As you know, a republic is a form of government where the people elect the government including the head of the state. Louis XVI and Queen Marie Antoinette were sentenced to death by a court for treason in 1793.

The Reign of Terror

The period from 1793 to 1794 is referred to as the Reign of Terror. Robespierre followed a policy of severe control and punishment. All those whom he saw as being 'enemies' of the republic - ex-nobles and clergy, members of other political parties, even members of his own party who did not agree with his methods - were arrested, imprisoned and then tried by a revolutionary tribunal. If the court found them 'guilty' they were guillotined.

Robespierre's government issued laws placing a maximum ceiling on wages and prices. Meat and bread were rationed. Peasants were forced to transport their grain to the cities and sell it at prices fixed by the government. The use of more expensive white flour was forbidden. All citizens were required to eat the pain d'égalité (equality bread), a loaf made of whole wheat. Churches were shut down and their buildings converted into barracks or offices. Robespierre pursued his policies so relentlessly that even his supporters began to demand moderation. Finally, he was convicted by a court in July 1794, arrested and on the next day sent to the guillotine.

Guillotine: beheaded by a machine

A Directory Rules France

The fall of the Jacobin government allowed the wealthier middle classes to seize power. A new Constitution was introduced which denied the vote to non-propertied sections of society. It provided for two elected legislative councils. These then appointed a Directory, an executive made up of five members. This was meant as a safeguard against the concentration of power in a one-man executive as under the Jacobins. However, the Directors often clashed with the legislative councils, who then sought to dismiss them. The political instability of the Directory paved the way for the rise of a military dictator, Napoleon Bonaparte. Napoleon finally captured powers declared himself the Emperor of France. Most democrats saw this as a betrayal of France revolution.

Through all these changes in the form of government, the ideals of freedom, of equality before the law and fraternity remained inspiring ideals. These ideals motivated political movements in France and the rest of Europe during the following century.

Women and French Revolution

From the very beginning women were active participants in the events which brought about so many important changes in French society. They hoped that their involvement would pressurise the revolutionary government to introduce measures to improve their lives. Most women of the Third Estate had to work for a living. They worked as seamstresses or laundresses, sold flowers, fruits and vegetables at the market, or were employed as domestic servants in the houses of prosperous people. Most women did not have access to education or job training. Only daughters of nobles or wealthier members of the Third Estate could study at a convent, after which their families arranged a marriage for them. Working women had also to care for their families, that is, cook, fetch water, queue up for bread and look after the children. Their wages were lower than those of men.

In order to discuss and voice their interests women started their own political clubs and newspapers. About sixty women's clubs came up in different French cities. The Society of Revolutionary and Republican Women was the most famous of them. One of their main demands was that women enjoy the same political rights as men. Women were disappointed that the Constitution of 1791 reduced them to passive citizens. They demanded the right to vote, to be elected to the Assembly and to hold political office.

In the early years, the revolutionary government did introduce laws that helped improve the lives of women. Together with the creation of state schools, schooling was made compulsory for all girls. Their fathers could no longer force them into marriage against their will. Marriage was made into a contract entered into freely and registered under civil law. Divorce was made legal, and could be applied for by both women and men. Women could now train for jobs, could become artists or run small businesses.

Women's struggle for equal political rights, however, continued. During the



Fig. 13.4: Parisian women on the way to Versailles. This print is on the many political representations of the events of 5th October 1789 when women marched and brought the king back with them to Paris.

Reign of Terror, the new government issued laws ordering closure of women's clubs and banning their political activities. Many prominent women were arrested and a number of them executed. Women's movements for voting rights and equal wages continued through the next two hundred years in many countries of the world. The fight for the vote was carried

Democratic and Nationalist Revolutions 19th Century

Nationalism - Rise in European States

In the previous chapter we studied about democratic revolutions – most of these were also nationalist in character. Europe at that time was divided into small kingdoms and large empires. The democratic and nationalist movements sought to establish powerful states which were based on the active participation of citizens who felt that they shared a common history, culture and economic life. The end result of these changes was the emergence of the nation-state in place of the multi-national dynastic empires of Europe.

The concept and practices of a modern state, in which a centralised power exercised sovereign control over a clearly defined territory, had been developing over a long



Map 1: Europe after the Congress of Vienna - 1815.

period of time in Europe. But a nation-state was one in which the majority of its citizens, and not only its rulers, came to develop a sense of common identity and shared history or and descent. This commonness did not exist from time immemorial; it was forged through struggles, through the actions of leaders and the common people.

The political and constitutional changes that came in the wake of the French Revolution led to the transfer of sovereignty from the monarchy to a body of French citizens. The revolution proclaimed that it was the people who would henceforth constitute the nation and shape its destiny. The revolutionaries further declared that it was the mission and the destiny of the French nation to liberate the peoples of Europe from despotism, in other words to help other peoples of Europe to become nations.

The French Revolution gave the term 'nation' its modern meaning. A nation is not the territory that the people belonging to it inhabit but people themselves. France was not merely the territories known as France but the 'French people'. From this followed the idea of sovereignty, that a nation recognises no law or authority above its own. And if a nation is sovereign, that means the people constituting the nation are the source of all power and authority. There cannot be any rulers above the people, only a republic in which the government derives its authority from the people and is answerable to the people. It is interesting to remember that when Napoleon became emperor he called himself the 'Emperor of the French Republic'. Such was the strength of the idea of people's sovereignty. It was this idea of the people being the sovereign that gave France her military strength. The entire nation was united behind the army which consisted of revolutionary citizens. In a war in which almost all of Europe was ranged against France, she would have had no chance with just a mercenary army.

Under the Jacobin constitution, all people were given the right to vote and the right of insurrection. The constitution stated that the government must provide the people with work or livelihood. The happiness of all was proclaimed as the aim of government. Though it was never really put into effect, it was the first genuinely democratic constitution in history. The government abolished slavery in the French colonies. Napoleon's rise to power was a step backward. However, though he destroyed the Republic and established an empire, the idea of the republic could not be destroyed. After the defeat of Napoleon, the old ruling dynasty of France was restored to power. However, within a few years, in 1830, there was another outbreak of revolution. In 1848, the monarchy was again overthrown though it soon reappeared. Finally, in 1871, the Republic was again proclaimed.

Jacobin clubs: Club for radical democracy thinkers.

The Revolution had come about with the support and blood of common people – the city poor and peasants. In 1792, for the first time in history, workers, peasants and other non-propertied classes were given equal political rights.

The right to vote and elect representatives did not solve the problems of the common people. The peasants got their lands. But to the workers and artisans – the

people who were the backbone of the revolutionary movement – the Revolution did not bring real equality. To them, real equality could come only with economic equality. France soon became one of the first countries where the ideas of social equality, of socialism, gave rise to a new kind of political movement.

- In what ways do you think Napoleon’s conquests would have helped in the emergence of nationalism in those countries?

Kingdoms of Europe

If you look at the map of mid-eighteenth-century Europe you will find that there were no ‘nation-states’ as we know them today. What we know today as Germany, Italy and Switzerland were divided into kingdoms, duchies and cantons whose rulers had their autonomous territories. Eastern and Central Europe were under autocratic monarchies within the territories of which lived diverse peoples. They did not see themselves as sharing a collective identity or a common culture. Often, they even spoke different languages and belonged to different ethnic groups. The Habsburg Empire that ruled over Austria-Hungary, for example, was a patchwork of many different regions and peoples. It included the Alpine regions – the Tyrol, Austria and the Sudetenland - and Bohemia, where the aristocracy was predominantly

- How did nationalism and the idea of the nation-state emerge?
- Discuss the importance of language and popular traditions in the creation of national identity.

German-speaking. It also included the Italian-speaking provinces of Lombardy and Venetia. In Hungary, half of the population spoke Magyar while the other half spoke a variety of dialects. In Galicia, the aristocracy spoke Polish. Besides these three dominant groups, there also lived within the boundaries of the empire, a mass of subject, peasant peoples – Bohemians and Slovaks to the north, Slovenes in Carniola, Croats to the south, and Roumans to the east in Transylvania. Such differences did not easily promote a sense of political unity. The only tie binding these diverse groups together was a common allegiance to the emperor.

Some important years

1797 -	Napoleon invades Italy; Napoleonic wars begin.
1814-1815-	Fall of Napoleon; the Vienna Peace Settlement.
1821 -	Greek struggle for independence begins.
1848 -	Revolutions in Europe; artisans, industrial workers and peasants revolt against economic hardships; middle classes demand constitution and representative governments; Italians, Germans, Magyars, Poles, Czechs, etc. demand nation-states.
1859-1870-	Unification of Italy.
1866-1871-	Unification of Germany.
1905 -	Slav nationalism gathers force in the Habsburg and Ottoman Empires.

The Aristocracy and the New Middle Class

Socially and politically, a landed aristocracy was the dominant class on the continent. The members of this class were united by a common way of life that cut

across regional divisions. They owned estates in the countryside and also town-houses. They spoke French for purposes of diplomacy and in high society. Aristocratic families were often connected by ties of marriage. This powerful aristocracy was, however, numerically a small group. The majority of the population was made up of the peasantry. To the west, the bulk of the land was farmed by tenants and small owners, while in Eastern and Central Europe the pattern of landholding was characterised by vast estates which were cultivated by serfs.

Serfs: Who were bound to the land of a particular lord and could not migrate without his permission.

Western and parts of Central Europe witnessed growth of industrial production and trade. This meant the growth of towns and the emergence of commercial classes whose existence was based on production for the market. Industrialisation began in England in the second half of the eighteenth century, but in France and parts of the German states it occurred only during the nineteenth century. In its wake, new social groups came into being: a working-class population, and middle classes, the others were industrialists, businessmen, various kinds of professionals. In Central and Eastern Europe these groups were smaller in number till late nineteenth century. It was among the educated, liberal middle classes that ideas of national unity and the abolition of aristocratic privileges gained popularity.

Liberal Nationalism

Ideas of national unity in early-nineteenth-century Europe were closely allied to the ideology of liberalism. The term 'liberalism' derives from the Latin root *liber*, meaning free. For the new middle classes liberalism stood for freedom for the individual and equality of all before the law. Politically, it emphasised the concept of government by consent. Since the French Revolution, liberalism had stood for the end of autocracy and privileges of the Church, a constitution and representative government through parliament. Nineteenth-century liberals also stressed the inviolability of private property.

Yet, equality before the law did not necessarily stand for universal suffrage. You will recall that in revolutionary France, which marked the first political experiment in liberal democracy, the right to vote and to get elected was granted exclusively to property-owning men. Men without property and all women were excluded from political rights. Only for a brief period under the Jacobins did all adult males enjoy suffrage. However, the Napoleonic Code went back to limited suffrage and reduced women to the status of a minor, subject to the authority of fathers and husbands. Throughout the nineteenth and early twentieth centuries women and non-propertyied men organised opposition movements demanding equal political rights. In the economic sphere, liberalism stood for the freedom of markets and the abolition of state-imposed restrictions on the movement of goods and capital. During the nineteenth century this was a strong demand of the emerging middle classes.

Suffrage: The right to vote

- In what ways do you think the old kingdoms prevented the growth of trade and industry?
- In what ways would liberal democracy have helped to develop trade and industry in those countries?

Let us take the example of the German-speaking regions in the first half of the nineteenth century. Napoleon's administrative measures had created a confederation of 39 states out of countless small principalities. Each of these possessed its own currency, and weights and measures. A merchant travelling in 1833 from Hamburg to Nuremberg to sell

his goods would have had to pass through 11 customs barriers and pay a customs duty of about 5 per cent at each one of them. Duties were often levied according to the weight or measurement of the goods. As each region had its own system of weights and measures, this involved time-consuming calculation. The measure of cloth, for example, was the **elle** which in each region stood for a different length. An elle of textile material bought in Frankfurt would get you 54.7 cm of cloth, in Mainz 55.1 cm, in Nuremberg 65.6 cm, in Freiburg 53.5 cm.

Such conditions were viewed as obstacles to economic exchange and growth by the new commercial classes, who argued for the creation of a unified economic territory allowing the unhindered movement of goods, people and capital. In 1834, a customs union or zollverein was formed at the initiative of Prussia and joined by most of the German states. The union abolished tariff barriers and reduced the number of currencies from over thirty to two. The creation of a network of railways

- Do you think our country has a liberal democratic political system? Give your reasons.

further stimulated mobility, harnessing economic interests to national unification. A wave of economic nationalism strengthened the wider nationalist sentiments growing at the time.

A New Conservatism after 1815

Following the defeat of Napoleon in 1815, European governments were driven by a spirit of conservatism. Conservatives believed that established, traditional

- Hold a debate in the class between those who agree with conservatism and those who agree with liberal democracy on what is best for the welfare and development of people in Europe or in India.
- Why do you think conservatism needs to curb freedom to express ones opinion and criticise?
- Can you guess what aspects of the Code of Napoleon would the kings reject and what aspects would they have accepted?

institutions of state and society – like the monarchy, the Church, social hierarchies, property and the family – should be preserved. Most conservatives, however, did not propose a return to the society of pre-revolutionary days. Rather, they realised, from the changes initiated by Napoleon, that modernisation could in fact strengthen traditional institutions like the monarchy. It could make state power more effective and strong. A modern army, an efficient bureaucracy, a dynamic economy, the abolition of feudalism and serfdom could strengthen the autocratic monarchies of Europe.

In 1815, representatives of the European powers – Britain, Russia, Prussia and Austria – who had collectively defeated Napoleon, met at Vienna to draw up a settlement for Europe. The Congress was hosted by the Austrian Chancellor Duke Metternich. The delegates drew up the Treaty of Vienna of 1815 with the object of undoing most of the changes that had come about in Europe during the Napoleonic wars. The Bourbon dynasty, which had been deposed during the French Revolution, was restored to power. France lost the territories it had annexed under Napoleon. A series of states were set up on the boundaries of France to prevent French expansion in future. The main intention was to restore the monarchies that had been overthrown by Napoleon, and create a new conservative order in Europe.

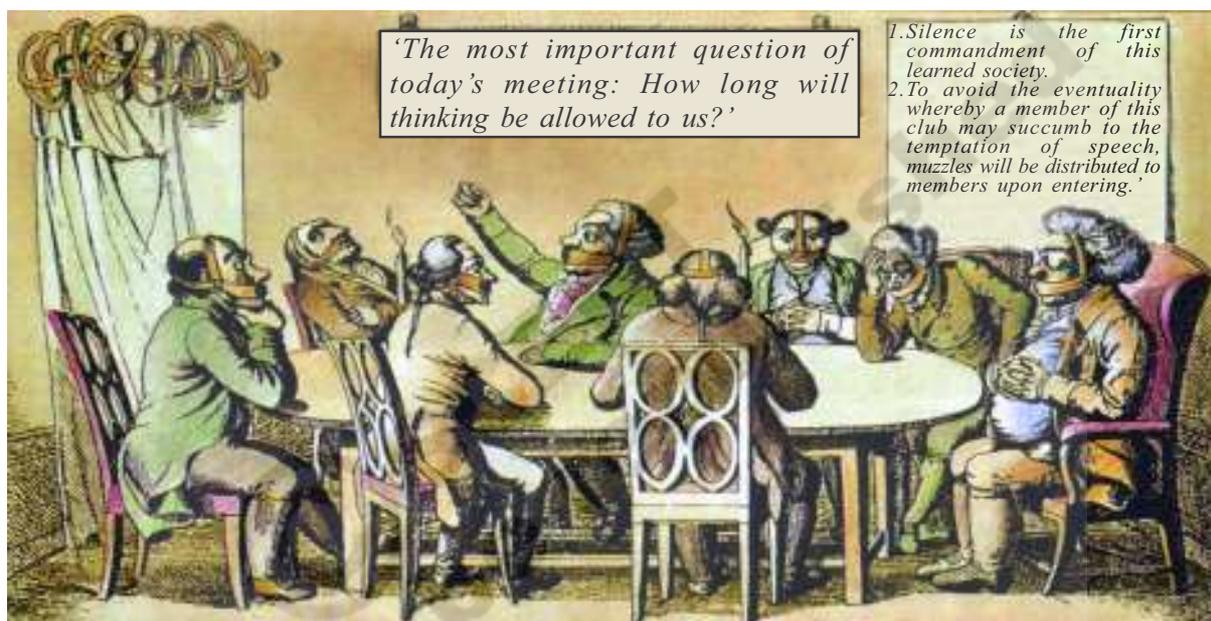


Fig. 14.1: The Club of Thinkers, anonymous caricature dating to 1820.

The plaque on the left bears the inscription: 'The most important question of today's meeting: How long will thinking be allowed to us?'

The board on the right lists the rules of the Club which include the following:

- 1. Silence is the first commandment of this learned society.*
- 2. To avoid the eventuality whereby a member of this club may succumb to the temptation of speech, muzzles will be distributed to members upon entering.*

- What is the caricaturist trying to depict?

Conservative regimes set up in 1815 were autocratic. They did not tolerate criticism and dissent, and sought to curb activities that questioned the legitimacy of autocratic governments. Most of them imposed censorship laws to control what was said in newspapers, books, plays and songs and reflected the ideas of liberty and freedom associated with the French Revolution. The memory of the French Revolution nonetheless continued to inspire liberals. One of the major issues taken up by the liberal-nationalists, who criticised the new conservative order, was freedom of the press.

The Romanticism and National Feeling



Fig. 14.2: *The Massacre at Chios*, Eugène Delacroix, 1824.

The French painter Delacroix was one of the most important French Romantic painters. This huge painting (4.19m x 3.54m) depicts an incident in which 20,000 Greeks were said to have been killed by Turks on the island of Chios. By dramatising the incident, focusing on the suffering of women and children, and using vivid colours, Delacroix sought to appeal to the emotions of the

The development of nationalism did not come about only through wars and territorial expansion. Culture played an important role in creating the idea of the nation: art and poetry, stories and music helped express and shape nationalist feelings.

Romanticism, a cultural movement which sought to develop a particular form of nationalist sentiment. Romantic artists and poets generally criticised the glorification of reason and science and focused instead on emotions, intuition and mystical feelings.

The emphasis on vernacular language and the collection of local folklore was not just to recover an ancient national spirit, but also to carry the modern nationalist message to large audiences who were mostly illiterate.

- You read in class VIII about how Indian nationalists also sought to revive and give importance to folk arts in India. Why do you think they thought this was important?

Hunger, Hardship and Popular Revolt

The 1830s were years of great economic hardship in Europe. The first half of the nineteenth century saw an enormous increase in population all over Europe. In most countries there were more seekers of jobs than employment. Population from rural areas migrated to the cities to live in overcrowded slums. Small producers in towns were often faced with stiff competition from imports of cheap machine-made goods from England, where industrialisation was more advanced than on the continent. This was especially so in textile production, which was carried out mainly in homes or small workshops and was only partly mechanised. In those regions of Europe where the aristocracy still enjoyed power, peasants struggled under the burden of feudal dues and obligations. The rise of food prices

or a year of bad harvest led to widespread pauperism in town and country.

The year 1848 was one such year. Food shortages and widespread unemployment brought the population of Paris out on the roads. Barricades were erected and Louis Philippe was forced to flee. A National Assembly proclaimed a Republic, granted suffrage to all adult males above 21, and guaranteed the right to work. National workshops to provide employment were set up.

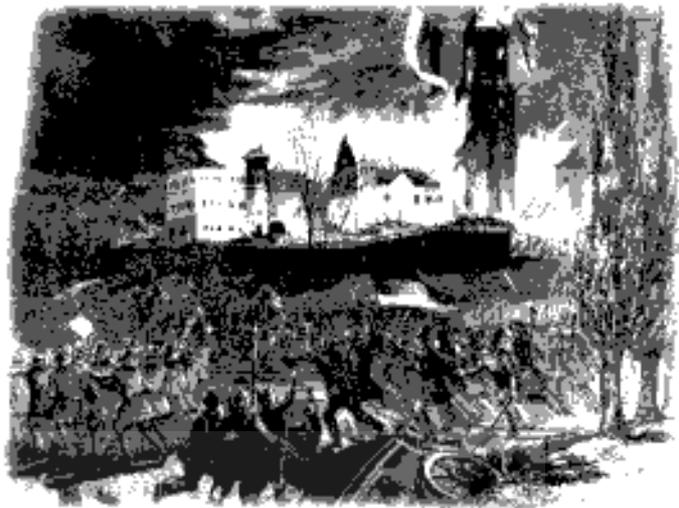


Fig. 14.3: Peasants' uprising, 1848.

The Revolts : 1830 and 1848

As conservative regimes tried to consolidate their power, liberalism and nationalism came to be increasingly associated with revolution in many regions of Europe such as the Italian and German states, the provinces of the Ottoman Empire, Ireland and Poland. These revolutions were led by the liberal-nationalists belonging to the educated middle-class elite, among whom were professors, school teachers, clerks and members of the commercial middle classes.

The Bourbons were restored to the throne of France, as we have seen, when the Congress of Vienna placed Louis XVIII on the throne. Louis was not an autocratic ruler like his brother, Louis XVI. According to a charter of 1814, he had ruled with the consent of a parliament. France was satisfied so long as Louis ruled, but in 1824 a third brother came to the throne as Charles X (1820-1830). He had been an active foe of the Revolution and now he tried to restore special privileges to the nobles and the clergy. When the Chamber of Deputies objected to his measures, he set aside the Charter of 1814 and attempted to rule as he pleased. This bought on an open revolt in which Charles was forced to abdicate and Louis Philippe, a distant cousin, became king (1830-1848).

The revolt against Charles X in 1830 touched off a series of revolts. Holland and Belgium, as you remember, had been united by the Congress of Vienna. This was one of those unions that showed the lack of wisdom on the part of the men of Vienna. The two countries were different in nationality, language, and religion. Moreover, the Dutch people had more power in the government than the Belgians had. In 1830 the Belgians revolted and set up an independent nation. The great powers looked with disfavour upon this, but there was not much that they could do. France had her hands full with her own revolution, and Austria was far away. At last the independence of the Belgians was accepted. They set up a constitutional monarchy similar to that of France under Louis Philippe.

The revolt spread to Poland, most of which had been given to Russia by the Congress of Vienna. The Polish situation was different from that of Belgium because it involved Russia, one of the great powers. The Poles received no help from their neighbours, and though they fought hard, they were defeated. As a result, the Tsar made Poland a part of Russia. Hundreds of Poles were put to death and everything possible was done to wipe out all national spirit among them.



Fig. 14.4: The revolting French people in Paris.

Revolts of 1848

As in 1830, so in 1848 revolution started in France. Louis Philippe was supposed to have a constitutional monarchy. In fact he was called the ‘citizen king’ at the time of his coronation, and the ceremony, he was crowned ‘by the grace of God’ and ‘by the will of the nation.’ Yet as time passed, his government grew more and more reactionary, until by 1848 he had aroused much opposition to his rule. His opponents were very numerous. The king’s chief minister was unpopular and the king had to dismiss him. A riot broke out in front of the home of the dismissed minister and the king’s soldiers fired on the mob, killing twenty-three of them. The mobs grew so violent that Louis Philippe decided that flight was the only thing left for him. Hearing the cries ‘Long live the Republic’ he slipped out of country as his cousin, Louis XIV, had tried to do and went to England.

In Paris, where the revolutionary spirit was especially strong, street fighting continued. Working men demanded jobs, and for sometime a provisional government attempted to give them work. The leader in this experiment was Louis Blanc, a Socialist. Dishonesty and greed made the plan unworkable and violence continued. The government troops finally defeated the insurgents and imposed severe punishments.

- Explain why Charles X and Louis Philippe fled from France.

Women and the Revolutions of 1848

The issue of extending political rights to women was a controversial one within the liberal movement, in which large numbers of women had participated actively over the years. Women had formed their own political associations, founded newspapers and taken part in political meetings and demonstrations. Despite this they were denied suffrage rights during the election of the Assembly. The Frankfurt Parliament that convened in the Church of St Paul, women were admitted only as observers to stand in the visitors' gallery.

Germany – Can the Army be the Architect of a Nation?

After 1848, nationalism in Europe moved away from its association with democracy and revolution. Nationalist sentiments were often mobilised by conservatives for promoting state power and achieving political domination over Europe.

This can be observed in the process by which Germany and Italy came to be unified as nation-states. As you have seen, nationalist feelings were widespread among middle-class Germans, who in 1848 tried to unite the different regions of the German confederation into a nation-state governed by an elected parliament. This liberal initiative to nation-building was, however, repressed by the combined forces of the monarchy and the military, supported by the large landowners called *junkars* of Prussia.

- Describe the caricature. How does it represent the relationship between Bismarck and the elected deputies of parliament? What interpretation of democratic processes is the artist trying to convey?

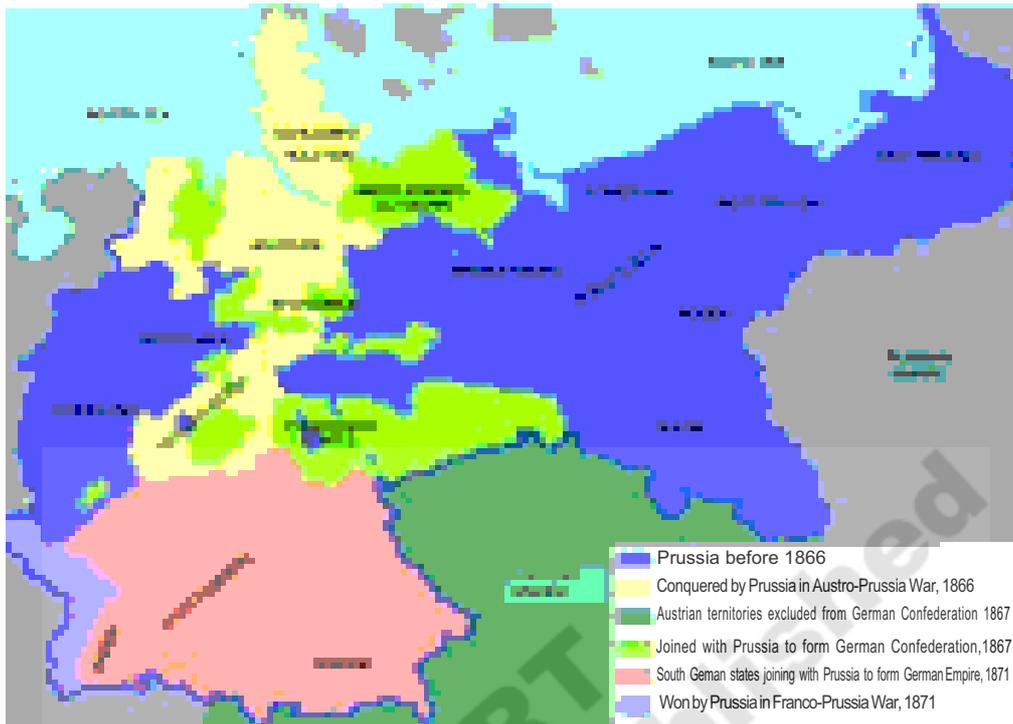


Caricature of Otto von Bismarck in the German reichstag (Parliament), from Figaro, Vienna, 5 March 1870.

Fig. 14.5: The proclamation of the German empire in the Hall of Mirrors at Versailles.

At the centre stands the Kaiser and the chief commander of the Prussian army, General von Roon. Near them is Bismarck. This monumental work Anton von Werner (2.7m x 2.7m) was completed and presented by the artist to Bismarck on the latter's 70th birthday in 1885.





Map 2: Unification of Germany (1866-1871)

From then on, Prussia took on the leadership of the movement for national unification. Its Prime Minister, Otto von Bismarck, was the architect of this process carried out with the help of the Prussian army and bureaucracy. Three wars over seven years – with Austria, Denmark and France – ended in Prussian victory and completed the process of unification. In January 1871, the Prussian king, William I, was proclaimed German Emperor in a ceremony held at Versailles.

The nation-building process in Germany had demonstrated the dominance of Prussian state power. The new state placed a strong emphasis on modernising the currency, banking, legal and judicial systems in Germany. Prussian measures and practices often became a model for the rest of Germany.

Unification of Italy

Like Germany, Italy too had a long history of political fragmentation. Italians were scattered over several dynastic states as well as the multi-national Habsburg Empire. During the middle of the nineteenth century, Italy was divided into seven states, of which only one, Sardinia-Piedmont, was ruled by an Italian princely house.

The north was under Austrian Habsburgs, the centre was ruled by the Pope and the southern regions were under the domination of the Bourbon kings of Spain. Even the Italian language had not acquired one common form and still had many regional and local variations.

During the 1830s, Giuseppe Mazzini had sought to put together a coherent programme for a unitary Italian Republic. He had also formed a secret society

called **Young Italy** for the dissemination of his goals. The failure of revolutionary uprisings both in 1831 and 1848 meant that the mantle now fell on Sardinia-Piedmont under its ruler King Victor Emmanuel II to unify the Italian states through war. In the eyes of the ruling elites of this region, a unified Italy offered them the possibility of economic development and political dominance.

Prime Minister Cavour who led the movement to unify the regions of Italy was neither a revolutionary nor a democrat. Like many other wealthy and educated members of the Italian elite, he spoke French much better than he did Italian. Through a tactful diplomatic alliance with France engineered by Cavour, Sardinia-Piedmont succeeded in defeating the Austrian forces in 1859. Apart from regular troops, a large number of armed volunteers under the leadership of Giuseppe Garibaldi joined the fray. In 1860, they marched into South Italy and the Kingdom of the Two Sicilies and succeeded in winning the support of the local peasants in order to drive out the Spanish rulers. In 1861 Victor Emmanuel II was proclaimed king of united Italy. However, much of the Italian population, among whom rates of illiteracy were very high, remained blissfully unaware of liberal nationalist ideology. The peasant masses who had supported Garibaldi in southern Italy had never heard of Italia, and believed that 'La Talia' was Victor Emmanuel's wife!

- Do you think Italy became a true nation state with its unification under King Emmanuel II? Give your



*Fig. 14.6: Giuseppe Mazzini and the founding of Young Italy in Berne 1833.
Print by Giacomo Mantegazza.*



Map 3: Italian States before Unification 1858.

Key words

- | | | |
|----------------|----------------|---------------------|
| 1. Despotism | 2. Nationalism | 3. Liberalism |
| 4. Bureaucracy | 5. Romanticism | 6. New Middle Class |

Improve your leaning

1. Choose the correct options.
 - Democratic and nationalist movements assumed that a nation has a _____ (shared history; shared culture; shared economy; all the above; none of the above)
 - Jacobin clubs were established in different countries by _____ (peasants; royalty; middle class; army)
 - During the mid 18th century the land was owned by _____ and cultivated by _____ (middleclass, army, aristocrats, tenants)
2. After reading about mid-eighteenth century Europe what similarities or difference amongst people existed in the context of: language, ethnicity, trade practices.
3. Do you agree with the statement: “when the emergence of nation states the dominance of Aristocracy declined and middle class increased”. Give reasons.
4. Write an imaginary dialogue between Mazzini and any of the Indian nationalist you have studied?
5. Mark sentences that describe conservatives and liberals. Try to identify examples in our contemporary context.
6. Draw a table to show the differences and similarities in the nation building process of France, Germany and Italy.
7. Explain what is meant by 1848 revolution of liberals. What were the political, social and economic ideas supported by the liberals?
8. Briefly trace process of Germany unification.
9. Locate some changes on Europe map drawn up by the Vienna Congress.

Project

Compare the map of Europe of Mid 18th Century (1815) with that of the present map of Europe and note down the changes you find, in a note book.

The transformation of industry and the economy in Britain between the 1780s and the 1850s is called the ‘first industrial revolution’. This had far-reaching effects in Britain. Later, similar changes occurred in European countries and in the USA. These were to have a major impact on the society and economy of those countries and also on the rest of the world. However the industrialisation that occurred in different countries followed different patterns depending upon their own historical, social and geographical features.

This early phase of industrial development in Britain is strongly associated with new machinery and technologies. These made it possible to produce goods on a massive scale compared to handicraft and handloom industries. This chapter outlines the changes in the cotton and iron industries. Steam, a new source of power, began to be used on a wide scale in British industries. Its use led to faster forms of transportation, by ships and railways. Many of the inventors and businessmen who brought about these changes were often neither personally wealthy nor educated in basic sciences like physics or chemistry.

Industrialisation led to greater prosperity for some. But, in the initial stages it was linked with poor living and working conditions of millions of people, including women and children. This sparked off protests, which forced the government to enact laws for regulating conditions of work. The term ‘Industrial Revolution’ was used by European scholars – Georges Michelet in France and



Fig. 15.1: Industries in London at the time of Industrial Revolution.

- What were the difficulties faced by women and children during industrial revolution?

Friedrich Engels in Germany. It was used for the first time in English by the philosopher and economist Arnold Toynbee (1852-83), to describe the changes that occurred in British industrial development between 1760 and 1820.

Why Britain?



Map 1: Britain(England): The Iron Industry

Britain was the first country to experience modern industrialisation. It had been politically stable since the seventeenth century, with England, Wales and Scotland unified under a monarchy. It became the pioneer of the European countries to experience the process of change in production and reaping its fruits, and was looked upon as the ‘Workshop of the World’. It was due to many favourable conditions or pre-requisites that were present in England towards setting up of flourishing industries. The other countries experienced the change later.

It was blessed with modest climate, which suited very much to cotton industry. There was no scarcity of water power. There was no dearth of raw material in England. Coal and iron were available in abundance, and side by side. The coal fields were larger and closer to important harbours than in any other European countries, like France or Germany, and so, it was convenient for transport by water.

“On the basis of iron, coal, and textiles” Fisher compliments, ‘Britain built up a type of civilisation which has been copied all round the world’.

Raising capital was not a problem in England as the wealth was available in abundance, and again, it was due to many reasons. Britain was known for its commercial pursuits with other countries from the beginning of the seventeenth century, and earned huge profits.

But, mere availability of wealth is of no use, unless it is invested in the right way. The part played by the Bank of England in speeding of the use of capital is in no way to be underestimated. The rise of London money market, joint-stock banks, and Joint Stock Corporation made the finance simple and easy.

Workers also were available from different sources in large numbers in England to be employed in the newly set up factories or industries for carrying out the production on a large scale. British population was also growing. The old and unprofitable system of agriculture was replaced by improved methods of cultivation i.e., by scientific rotation of crops. This increased the food supply, and consequently, the population. It was further facilitated by the immigration of some continental European Labour into England in the eighteenth century. The gradual destruction of old peasant farming, due to enclosure movement, supplied the agricultural labour to the newly set up industries.

It was well equipped by eighteenth century for sea - borne trade. It had a good number of ports. Inland transport was improved and modernised by building a net work of roads and canals. It was fortunate in having a handful of remarkable Scots and English who succeeded in inventing machines to be applied in the process of production, and thus transforming the economic life of the country.

- Discuss the developments in Britain and in other parts of the world in 18th century that encouraged British Industrialisation

Coal and Iron

England was fortunate in that coal and iron ore, the staple materials for mechanisation, were plentifully available, as were other minerals – lead, copper and tin – that were used in industry. However, until the eighteenth century, there was a scarcity of usable iron. Iron is extracted as pure liquid metal from the ore by a process called smelting. For centuries, charcoal (from burnt timber) was used for the smelting process. This had several problems: charcoal was too fragile to transport across long distances; its impurities produced poor-quality iron; it was in short supply because forests had been destroyed for timber and it could not generate high temperatures.

The solution to this problem had been sought for years before it was solved by a family of iron-masters, the Darbys of Shropshire. In the course of half a century, three generations of this family – grandfather, father and son, all called Abraham Darby –

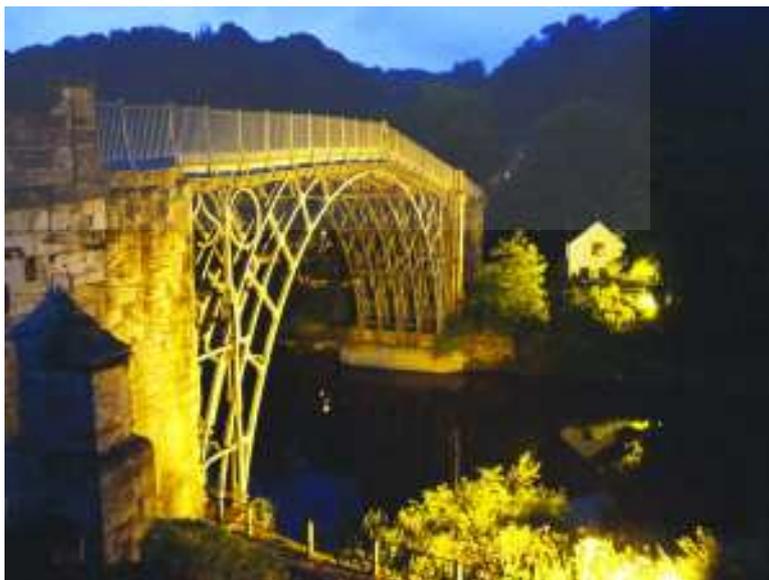


Fig. 15.2: The Cast Iron Bridge near Coalbrookdale, designed by the third Darby.

brought about a revolution in the metallurgical industry. It began with an invention in 1709 by the first Abraham Darby (1677-1717). This was a blast furnace that would use coke, which could generate high temperatures. Coke was derived from coal by removing the sulphur and impurities. This invention meant that furnaces no longer had to depend on charcoal. The melted iron that emerged from these furnaces permitted finer and larger castings than before.

The process was further refined by more inventions. The second Darby (1711-68) developed wrought-iron (which was less brittle) from pig-iron. Henry Cort (1740-1823) designed the puddling furnace (in which molten iron could be rid of impurities) and the rolling mill, which used steam power to roll purified iron into bars. It now became possible to produce a broader range of iron products. The durability of iron made it a better material than wood for everyday items and for machinery. Unlike wood, which could burn or splinter, the physical and chemical properties of iron could be controlled.

Britain was lucky in possessing excellent coking coal and high-grade iron ore in the same basins or even the same seams. These basins were also close to ports. There were five coastal coalfields which could deliver their products almost straight into ships. As a result ship building and the shipping trade increased.

- Why is high quality steel and iron necessary for industrialisation? Discuss in the class.
- Why do you think the mining of iron ore and coal received equal importance?
- Why do you think the early industrial centres were situated near the iron and coal mines?

The British iron industry quadrupled its output between 1800 and 1830, and its product was the cheapest in Europe. In 1820, a tonne of pig iron needed 8 tonnes of coal to make it, but by 1850 it could be produced by using only 2 tonnes. By 1848, Britain was smelting more iron than the rest of the world put together.

Cotton Spinning and Weaving

The British had always woven cloth out of wool and flax (to make linen). From the seventeenth century, the country had been importing bales of cotton cloth from India at great cost. As the East India Company's political control of parts of India was established, it began to import, along with cloth, raw cotton, which could be spun and woven into cloth in England.

Till the early eighteenth century, spinning had been so slow and laborious that 10 spinners (mostly women, hence the word 'spinster') were required to supply sufficient yarn to keep a single weaver busy. Therefore, while spinners were occupied all day, weavers waited idly to receive yarn. But a series of technological inventions successfully closed the gap

- Write two important inventions which revolutionised the textile industry.

between the speed in spinning raw cotton into yarn or thread, and of weaving the yarn into fabric. To make it even more efficient, production gradually shifted from the homes of spinners and weavers to factories.

From the 1780s, the cotton industry symbolised British industrialisation in many ways. This industry had two features which were also seen in other industries. Raw cotton had to be entirely imported and a large part of the finished cloth was exported. This sustained the process of colonisation, so that Britain could retain control over the sources of raw cotton as well as the markets. The industry was heavily dependent on the work of women and children in factories.

Steam Power

Steam power was first used in mining industries. As the demand for coal and metals expanded, efforts to obtain them from ever-deeper mines intensified. Flooding in mines was a serious problem and steam engines were used to drain the mines. But the technology was still very imperfect to be used on a large scale.

James Watt's (1736-1819) invention converted the steam engine from being a mere pump into a 'prime mover' capable of providing energy to power machines in factories. Backed by the wealthy manufacturer Matthew Boulton (1728- 1809), Watt created the Soho Foundry in Birmingham in 1775. From this foundry James Watt's steam engines were produced in steadily growing numbers. By the end of the eighteenth century, Watt's steam engine was beginning to replace hydraulic power. In 1840, British steam engines were generating more than 70 per cent of all European power.



Map 2: The cotton industries in



Fig. 15.3: James Watt's Steam Engine.

Transportation

The need to transport raw materials and manufactured products led to the improvement of roads and the digging of canals in England. Mc Adam devised the method of making '*pakka*' or 'macadamised' roads.

Canals were initially built to transport coal to cities. This was because the bulk and weight of coal made its transport by road much slower and more expensive than by barges on canals. The demand for coal, as industrial energy and for heating and lighting homes in cities, grew constantly. The making of the first English canal, the Worsley Canal (1761) by James Brindley (1716-72), had no other purpose than to carry coal from the coal deposits at Worsley (near Manchester) to that city. After the canal was completed the price of coal fell by half. Thousands of kilometres of canals were built by 1830 and were used to transport commodities cheaply. They were mostly built by landowners to enhance the value of their properties.

The first steam locomotive, Stephenson's Rocket, appeared in 1814. Railways emerged as a new means of transportation that was available throughout the year, both cheap and fast, to carry passengers and goods. They combined two inventions, the iron track which replaced the wooden track in the 1760s, and haulage along it by steam engine.

The invention of the railways took the entire process of industrialisation to a second stage. The first railway line connected the cities of Stockton and Darlington in 1825, a distance of 9 miles that was completed in two hours at the speed of upto 5 mph. The next railway line connected Liverpool and Manchester in 1830. Within 20 years, speed of 30 to 50 miles an hour was usual.

In the 1830s, the use of canals revealed several problems. The congestion of vessels made movement slow on certain stretches of canals, and frost, flood or drought limited the time of their use.

Who were the inventors?

It is interesting to find out the individuals who brought about these changes. Few of them were trained scientists. Education in basic sciences like physics or chemistry was extremely limited until the late nineteenth century, well after the technological inventions described above. Since these breakthroughs did not require a full knowledge of the laws of physics or chemistry on which they were based, advances could be and were made by brilliant, intuitive thinkers and persistent experimenters. They were helped by the fact that England had certain features which other European countries did not. Dozens of scientific journals and published papers of scientific societies appeared in England between 1760 and 1800.

There was a widespread thirst for knowledge even in the smaller towns. This was met by the activities of the Society of Arts (founded in 1754), by travelling lecturers, or in ‘coffee houses’ that multiplied through the eighteenth century.

Most inventions were more the product of determination, interest, curiosity, even luck, than the application of scientific knowledge. Some inventors in the cotton industry, like John Kay and James Hargreaves, were familiar with the skills of weaving and carpentry. Richard Arkwright, however, was a barber and wig-maker, Samuel Crompton was not technically skilled and Edmund Cartwright studied literature, medicine and agriculture, initially wished to become a clergyman and knew little of mechanics.

By contrast, in the area of steam engines, Thomas Savery, an army officer, Thomas Newcomen, a blacksmith and locksmith, and James Watt, with a strong mechanical bent, all had some knowledge relevant to their inventions. The road-builder John Metcalf, who personally surveyed surfaces for roads and planned them, was blind. The canal builder James Brindley was almost illiterate, with such poor spelling that he could never spell the word ‘navigation’, but he had tremendous powers of memory, imagination and concentration.

Changed lives

In these years, therefore, it was possible for individuals with talent to bring about revolutionary changes. Similarly, there were rich individuals who took risks and invested money in industries in the hope that profits could be made and that their money would ‘multiply’. In most cases this money – capital – did multiply. Wealth, in the form of goods, incomes, services, knowledge and productive efficiency, did increase dramatically.

There was, at the same time, a massive negative human cost. This was evident in broken families, new addresses, degraded cities and appalling working conditions



Fig. 15.4: (A) Coalbrookdale, Carpenters' Row, cottages built by the company for workers in 1783; (B) The houses of the Darbys; painting by William Westwood, 1835.

in factories. The number of cities in England with a population of over 50,000 grew from two in 1750 to 29 in 1850. This pace of growth was not matched with the provision of adequate housing, sanitation or clean water for the rapidly growing urban population. Newcomers were forced to live in overcrowded slums in the congested central areas of towns near factories. The rich inhabitants escaped this situation, by shifting their homes to the suburbs where the air was cleaner and the water safe to drink.

The Workers

A survey in 1842 revealed that the average lifespan of workers was lower than that of any other social group in cities: it was 15 years in Birmingham, 17 in Manchester, 21 in Derby. More people died, and died at a younger age, in the new industrial cities, than in the villages they had come from. Half the children failed to survive beyond the age of five. The increase in the population of cities was because of immigrants, rather than by an increase in the number of children born to families who already lived there.

Deaths were primarily caused by epidemics of disease that sprang from the pollution of water, like cholera and typhoid, or of the air, like tuberculosis. More than 31,000 people died from an outbreak of cholera in 1832. Until late in the nineteenth century, municipal authorities were negligent in attending to these dangerous conditions of life. The medical knowledge to understand and cure these diseases was unknown.

Women, Children and Industrialisation

The Industrial Revolution was a time of important changes in the way that children and women worked. Children of the rural poor had always worked at home or in the farm at jobs that varied during the day or between seasons, under the watchful eye of parents or relatives. Likewise, in villages women were actively involved in farm work; they reared livestock, gathered firewood and spun yarn on spinning wheels in their homes.

Work in the factories, with long, unbroken hours of the same kind of work, under strict discipline and sharp forms of punishment, was completely different. The earnings of women and children were necessary to supplement men's meagre wages. As the use of machinery spread, and fewer workers were needed, industrialists preferred to employ women and children who would be less agitated about their poor working conditions and work for lower wages than men.

They were employed in large numbers in the cotton textile industry in Lancashire and Yorkshire. Women were also the main workers in the silk, lace-making and knitting industries, as well as (along with children) in the metal industries of Birmingham. Machinery like the cotton spinning jenny was designed to be used by child workers with their small build and nimble fingers. Children

were often employed in textile factories because they were small enough to move between tightly packed machinery. The long hours of work, including cleaning the machines on Sundays, allowed them little fresh air or exercise. Children caught their hair in machines or crushed their hands. Some died when they fell into machines as they dropped off to sleep from exhaustion.

Coal mines were also dangerous places to work in. Roofs caved in or there could be an explosion, and injuries were therefore common. The owners of coal mines used children to reach deep coal faces where the approach path was too narrow for adults. Younger children worked as 'trappers' who opened and shut doors as the coal wagons travelled through mines, or carried heavy loads of coal on their backs as 'coal bearers.'

Factory managers considered child labour to be important training for future factory work. The evidence from British factory records reveals that about half of the factory workers had started work when they were less than ten years old and 28 per cent when they were under 14. Women may well have gained increased financial independence and self-esteem from their jobs; but this was more than offset by the humiliating terms of work they endured, the children they lost at birth or in early childhood and the squalid urban slums that industrial work compelled them to live in.

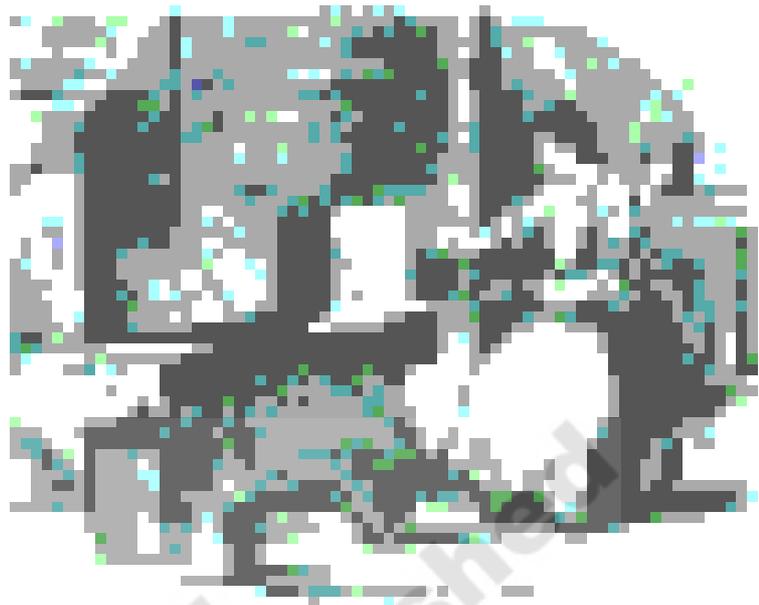


Fig. 15.5 : Woman in gilt-button factory, Birmingham. In the 1850s, two thirds of the workforce in the button trade was women and children. Men received 25 shillings a week, women 7 shillings and children one shilling each, for the same hours of work.

- Mention two important industrialisation effects on women and children's life.

Industrialisation in Germany and France

While industrialisation began early in England in the 18th century, it was not until 1850s and 1870s that industrial production became prominent in Germany and France. As you may remember, Germany was not yet united till 1870 and France was still undergoing turmoil of wars and revolutions. Unlike Britain which had extensive colonies, Germany and France lacked colonial resources. They thus had to make up for these disadvantages.

- Discuss the effects of early industrialisation on British town and villagers and compare these with similar situation in India.

In both the countries industrialisation received a boost by the introduction of railways in 1830s. Railways stimulated trade, communication and economic growth. By 1850 the various German states had constructed half as much railways as Britain and twice as much as France.

Prussia, exploited its rich coalfields (Silesia and the Rhineland -the Ruhr) and iron deposits (Bohemia) in order to create a flourishing steel industry. Alfred Krupp had established a small iron foundry at Essen in 1810. By 1870 Krupp of Essen, had been transformed into a giant company employing thousands of workers and making a fortune for the Krupp family with its railway locomotive and armaments production. In turn, the invention of the electric dynamo by Werner Siemens in 1866, laid the foundations of a new electrical industry in which Germany would lead the world. The defeat of France in 1870 and the creation of a united Germany in 1871 stimulated industrialisation even further, because the new politically united Germany could now exploit the rich iron-fields of Lorraine taken from France.

Condition of child labourers

The horrible condition of child labourers is stated in the evidence collected by a committee of British Parliament in 1816. The following information was collected from a one-time master of apprentices in a cotton mill. He was asked questions by the committee on the condition of child labourers in his factory.

'At what age were they taken?'

'Those that came from London were from about eight or ten to fifteen.'

'Up to what period were they apprenticed?'

'One –and–twenty.'

'What were the hours of work?'

'From five O'clock in the morning till eight at night.'

'Were fifteen hours in the day the regular hours of work?'

'Yes.'

'When the works were stopped for the repair of the mill, or for any want of cotton, did the children afterwards make up for the loss of that time?'

'Yes.'

'Did the children sit or stand to work?'

'Stand.'

'The whole of their time?'

'Yes.'

'Were there any seats in the mill?'

'None. I have found them frequently upon the mill-floors, after the time they should have been in bed.'

'Were any children injured by the machinery?'

'Very frequently.'

German industrialisation was greatly facilitated by the German government which not only provided a large market for its industries besides investing in building roads and railways and developing mines. The German army required huge quantities of arms and ammunitions and many of the leading industrialists focused on the armament industry. The government also controlled working class movement with a heavy hand and at the same time provided for many social benefits and insurance for the workers. This enabled the factory owners to control their workers and pay less.

- Compare the industrialisation in Germany and France. Identify similarities and differences.
- Why do you think France lagged behind in industrial development?
- What factors enabled Germany to outstrip England and France in industrialisation?

German industry also benefitted from the technical developments achieved by Britain and USA. They directly borrowed the new technology which other countries had developed over a long time. For this of course they needed heavy capital investment which they received from large banks. Thus German industries developed as large concentrated units and even surpassed British industries in size and scope.

German industrialisation initially had to contend with the leadership of Britain over many key sectors like cotton textiles and machine building. However, soon Germany developed iron and steel, chemical and electrical industries which were new generation industries and overtook Britain in these areas. By the beginning of 20th century, Germany had developed a powerful industrial base and was challenging Britain as Europe's major industrial power. Britain was still producing more coal, but Germany was producing more steel. What was worrying about this situation for Britain and France was the fact that a great proportion of this industrial production was used to build up Germany's military and naval power.

France, in contrast was slow in industrialising. Even by the end of 19th century she remained a rural country with a large majority of people cultivating small plots of land. Manufacturers found it more profitable to give out work to rural workers who worked at home rather than to set up factories in towns. Such rural domestic production began to decline after 1850 resulting in economic adversity for the people. Machines in towns began to take over much of the work and only delicate hand work was given out to rural workers. Much of French

The Krupp Family

The Krupp family established what was to become the world's largest arms factory. This first factory specialised in field gun manufacture and, by 1887, it supplied arms to forty six different countries.

During World War I the Krupp factories made guns for the German artillery.

The Krupps supported Hitler in the German general election of 1933. As Nazi Germany occupied neighbouring countries, Alfred Krupp seized new land to make more factories. Many of these factories used slave-labour from the Nazi concentration camps.

Industrialisation and the emergence of nation states changed the lives of people in very basic ways, the way people worked, their entitlement to necessities of life and dignity, their relation to their own work and its products, their families and neighbourhood. To many people, especially the poor peasants and crafts persons and also industrial workers, it meant an end to dignified and secured life. They had to now work in factories with hundreds and thousands of other workers under control of unsympathetic foremen and managers. They did not have any aware over what they produced, when and how they worked. The meagre wages and impermanence of work created tremendous discontent among the people. Things became especially difficult when the factory owners tried to cut down wages or retrench workers or increase workload on them.

The early decades of industrialisation coincided with the spread of new political ideas pioneered by the French Revolution (1789-94). The movements for 'liberty, equality and fraternity' showed the possibilities of collective mass action. They created democratic institutions like the French parliamentary assemblies of the 1790s and checked the worst hardships of war by controlling the prices of necessities like bread.

Industrialisation also deeply troubled artists and intellectuals. Human values associated with agricultural or craft production and community life of villages were lost. The overwhelming emphasis on reason and science and technology rather than feelings and emotions, the awesome impact of large scale industrialisation coupled with the squalor and poverty in which the working people lived – left deep mark on the thinking of the people. Some of them studied economics and social history to understand the challenges of industrialisation. Others turned to poetry and art for inspiration for alternative virtues.



Fig. 16.1: Lane in poorer quarters of London. French artist Dore 1876.

Industrialisation also gave birth to new social groups which increasingly wanted to play an important role in the society. While it gave power and influence to the industrial capitalists and large landowners, it also gave rise to organised working class movement. Workers realised their power when they united as they could bring

- In what ways do you think ideas of liberty, equality and fraternity would have helped to inspire protest movements?
- Do you think people have achieved these three ideals in the 21st century?
- Do you see any social movements which are still inspired by these ideas around you?

the entire economy to a standstill. They were also inspired by the ideas of French Revolution and Socialism. Similarly, women who till then were confined to homes came out demanding equal status and role in society, economy, polity and culture. They often joined hands with other social movements like socialism and democratic nationalism to push their cause.

In this chapter we will look at some of these developments and try to see how they influenced the course of modern world, especially India.

Early Worker's Movements in England

In England, political protest against the harsh working conditions in factories kept increasing. The working population agitated for the right to vote. The government reacted by repression and by new laws that denied people the right to protest.

England had been at war with France for a long time – from 1792 to 1815. Trade between England and Europe was disrupted, factories were forced to shut down, unemployment grew and the price of essential items of food, like bread and meat, soared to heights beyond the level of average wages. Parliament in 1795 passed two Combination Acts which made it illegal to ‘incite the people by speech or writing to hatred or contempt of the King, Constitution or Government’ and

- Why do you think workers would have supported the ending of the Corn Laws and why do you think the landowners supported them?
- In India too such laws which protected our farmers from competition from import of cheap agricultural products are being ended. Do you think such imports will benefit the poor people in India?

banned unauthorised public meetings of over 50 persons. Protest, nonetheless, continued against ‘Old Corruption’. This term was used for privileges linked to the monarchy and Parliament. Members of Parliament – landowners, manufacturers and professionals – were opposed to giving the working population the right to vote. They supported the Corn Laws, which prevented the import of cheaper food until prices in Britain had risen to a certain level.

As workers flooded towns and factories, they expressed their anger and frustration in numerous forms of protest. There were bread

or food riots throughout the country from the 1790s onwards. Bread was the staple item in the diet of the poor and its price governed their standard of living. Stocks of bread were seized and sold at a price that was affordable and morally correct rather than at the high prices charged by profit-hungry traders. Such riots were particularly frequent in the worst year of the war, 1795, but they continued until the 1840s.

Another cause of hardship was the process known as ‘enclosure’ – by which, from the 1770s, hundreds of small farms had been merged into the larger ones of powerful landlords. Poor rural families affected by this had sought industrial work. But the introduction of machines in the cotton industry threw thousands of handloom weavers out of work and into poverty, since their labour was too slow to compete with machines. From the 1790s, these weavers began to demand a legal minimum wage, which was refused by Parliament. When they went on strike, they were dispersed by force. In desperation, in Lancashire, cotton weavers destroyed the powerlooms which they believed had destroyed their livelihood.

- To what extent do you think breaking the machines helped the workers?
- The government passed a law which provided for capital punishment for those who broke machines. Do you think this was justified?
- When new machines are brought in a factory, some workers are usually rendered jobless. Why do you think this happens? Can there be ways of improving technology without creating unemployment for workers?

In Yorkshire, shearing-frames were destroyed by croppers, who had traditionally sheared sheep by hand. In the riots of 1830, farm labourers found their jobs threatened by the new threshing machines that separated the grain from the husk. The rioters smashed these machines. Nine of them were hanged and 450 were sent to Australia as convicts.

Luddism

The movement known as Luddism (1811-17), led by the charismatic General Ned Ludd, exemplified another type of protest. Luddism was not merely a backward-looking assault on machines. Its participants demanded a minimum wage, control over the labour of women and children, work for those who had lost their jobs because of the coming of machinery, and the right to form trade unions so that they could legally present these demands. The workers who still did not have any powerful trade union to fight for their rights, fought by threatening to damage the machines and stocks of the factory owners. In many cases the factory owners agreed to negotiate with the workers and offer better terms. Workers and even many middle class persons like shop keepers and master craftsmen thought that the machines

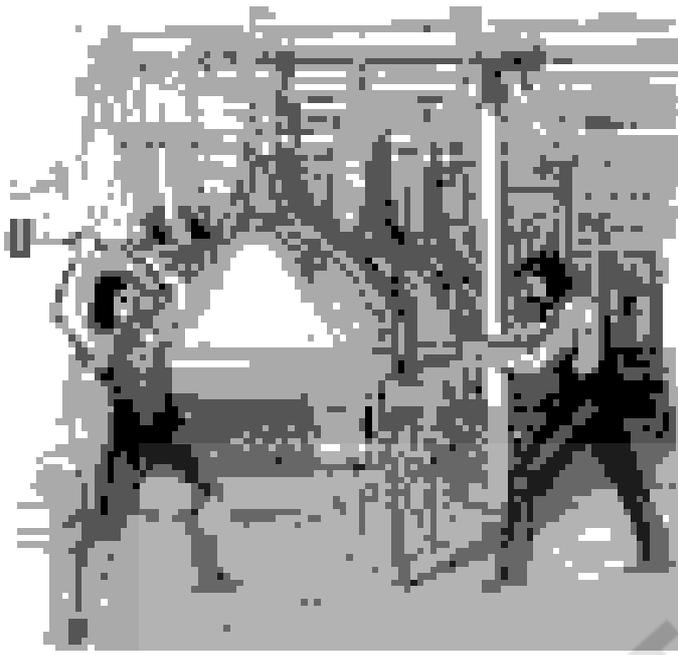


Fig. 16.2: An illustration from 1812 named *Frame Breaking showing Luddists*.

were unnecessary and were being introduced to rob people of their livelihoods. Hence there was much social support to such protests. In many places the radical workers acted spontaneously in the name of General Ludd and in other places there were secret organisations which acted in a planned and coordinated manner.

Socialism

Even as Luddism was being suppressed by the government and the army, a new ideology was developing which was to give the workers a new social goal. This was the idea of Socialism. What is Socialism? It is a doctrine that calls for public rather than

private ownership or control of property and natural resources. According to the socialist view, individuals do not live or work in isolation but live in cooperation with one another. Further, everything that people produce is in some sense a social product, and everyone who contributes to the production of a good is entitled to a share in it. Society as a whole, therefore, should own or at least control property for the benefit of all its members.

In this way socialism contradicts the basic idea of capitalism which is based on private ownership of the means of production and free play of market in determining what is to be produced and who is to be given a share of the produce. Socialists complain that capitalism necessarily leads to unfair and exploitative concentrations of wealth and power in the hands of the relative few. The rich then use their wealth and power to reinforce their dominance in society. Because such people are rich, they may choose where and how to live, and their choices in turn limit the options of the poor. As a result, terms such as individual freedom and equality of opportunity may be meaningful for capitalists. But for the working people, who must do the capitalists' bidding if they are to survive, they can only hollow. As socialists see it, true freedom and true equality require social control of the resources that provide the basis for prosperity in any society.

Socialists also believe that given such unequal distribution of resources, there cannot really be genuine free competition as the rich and powerful manage to tilt the balance in their favour by hook or crook.

Some elements of socialist ideas can be seen in many thinkers down the ages, like Plato or Thomas Moore. These ideas became powerful when they were

combined with the ideas of French Revolution. Babeuf and other radicals complained that the Revolution had failed to fulfil the ideals of liberty, equality, and fraternity. Adherence to “the precious principle of equality,” Babeuf argued, requires the abolition of private property and common enjoyment of the land and its fruits. Such beliefs led to his execution for conspiring to overthrow the government. However, his ideas inspired a generation of social protest movements against the factory system.

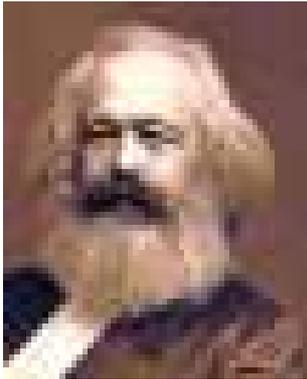
Another early socialist thinker was Saint-Simon of France who did not call for public ownership of productive property. But he advocated for public control of property through central planning, in which scientists, industrialists, and engineers would anticipate social needs and direct the energies of society to meet them. Such thinkers emerged in England too, the home of Industrial Revolution. Here a small industrialist named Owen was appalled by the conditions of the workers and the wealth of the capitalists. He called for building cooperative villages, in which everything would be owned in common and people would work in cooperation with each other and share the products of their labour. However, these ideas remained idealistic or utopian as most people felt that these were good ideas which could not be implemented given the massive growth of industrial production.

Karl Marx and Fredric Engels formulated a new theory of socialism based on their study of the working of industrial capitalist production. They argued that capitalism is both a progressive force in history and an exploitative system that alienates capitalists and workers alike from their true humanity. It is progressive because it has made possible the industrial transformation of the world, thereby unleashing the productive power to free everyone from necessity. Yet it is exploitative in that capitalism condemns the proletarians, who own nothing but their labour power, to lives of grinding labour while enabling the capitalists to reap the profits. Marx believed that industrial production will make it impossible for people to live and work on a small scale; they will have to cooperate with countless number of people to produce even their basic needs. Thus production has been made into an all-society affair rather than a matter of one family or a small farm or one village. This has given human beings tremendous power in their hands to better their own lives, provided they are able to do it in collective interest.

Marx and Engels argued that the workers who produced in the factories, had no property and were at the same time crucial for the production to happen. Yet they



Fig. 16.3: Poster from a magazine that mobilises workers



Karl Marx

are exploited so that the capitalist system continues to make profit. This will necessarily force the workers to fight not only for better wages but for ending the capitalist system itself. If the workers could take over all factories and other resources and ran them for common benefit, the foundations of a new and equitable society could be established. He



Friedrich Engels

argued that workers should organise themselves and throw out the capitalists just like the people did away with the feudal lords and kings in the French Revolution. Workers should take over the state apparatus and establish a worker’s state which should own all factories and land and organise production on a planned basis to benefit all.

The ideas of Marx and Engels made a great impact on radical thinkers and activists at the end of 19th century and inspired major social movements in the 20th century. At the same time many other radical thinkers disagreed with Marx on a number of issues and they propounded new theories like Anarchism.

Socialism came to India from very early days. Swami Vivekananda was himself deeply influenced by the ideas of Socialism which were growing in Europe and America when he visited those continents. As the nationalist movement grew in strength, many nationalists were also influenced by socialism. Russian Communist Revolution in 1917 was the source of great inspiration for Indian nationalists, particularly as the revolutionary government declared that it will support all

nationalist causes. Many leaders like MN Roy, Bhagat Singh, Jawaharlal Nehru etc. were enthusiastic socialists. As factory production developed in Indian cities too, many leaders organised trade unions among the workers. They too were influenced by the ideas of Marxism and went on to found the Communist Party of India in the 1920s.

- In what way did Marx’s Socialism disagree with Luddism?
- Why did Marx consider factory production as superior and desirable?
- What was the main difference between Marx and the earlier socialists?

Women’s Movement

During medieval and early modern times women the world over including Europe were dominated by men. They did not have access to property or civil rights like voting, etc. They were mostly confined to domestic work like cooking, bringing up children and taking care of the elderly at home and assisting men at work. This began to change with industrialisation as women began to be employed

in factories in large numbers. As women came out of family to work and earn they developed a new identity about themselves and their role in the society. They began to assert the principle of equality of all human beings, whether they were women or men.

When the French Revolutionaries were preparing the Declaration of Rights of Men in 1791, many French women protested against this and drafted a separate Declaration of the Rights of Women. It declared - "Women are born free and remain equal to men in rights. Social distinctions may only be based on common utility... All citizens including women are equally admissible to all public dignities, offices and employments, according to their capacity, and with no other distinction than that of their virtues and talents". Of course this declaration was never passed by the French Assembly. However, the principles that women should be treated as equals of men, that they should have right to participate in government through voting and holding public posts remained as the goals of women's movement in Europe and America.

The movement for extending the right to vote to all sections of the population gained momentum in 1830 to 1870. In countries like England, women too came out in large numbers demanding right to vote. They were called 'women's suffragists'. They held demonstrations, meetings and wrote in newspapers, etc. and made appeals to the Parliament. Russian Revolution was the first to grant such rights to all women in 1917. The right to vote was extended to some women in England in 1918 and to all adult women by 1928. Gradually this was accepted by most democratic countries.

As women participated more and more in public matters, they realised that unequal treatment of women continued in most sectors, whether education, or health or property rights or employment. Many women writers like Virginia Woolf wrote about how men dominate over women and how women have themselves become tools of this domination. A new phase of women's movement developed after the Second World War which focused attention of gaining equality of women in all aspects of life. They campaigned against cultural and political inequalities, which they saw as inextricably linked. The movement encouraged women to understand aspects of their own personal lives as deeply politicised, and reflective of an unequal distribution of power between men and women. If first-wave feminism focused upon absolute rights such as suffrage, second-wave feminism was largely concerned with other issues of equality, such as the end to discrimination in all aspects of life including education and health.

You would have read about the struggles of social reformers in 19th century India to end practices like Sati, killing of girl children at birth, enforced widowhood for life etc. and also to extend modern education to women. The growth of education among women enabled many women to take part in public life and organise other women like themselves. This gave rise to women's movement in India too.

Women participated in the national movement and leaders like Gandhiji specially emphasised the importance of women in the movement. Thousands of women joined the freedom movement and helped to shape the ideas of the nationalists. As a result when India became independent women were given complete legal equality vis a vis men. It also sought to end discriminations against them in property laws etc.

Even though legal equality was achieved real equality still deludes women all over the world including India and new wave of women's movement is on to understand the reasons for this and also to bring about real and effective equality.

Key words

- | | | |
|--------------|---------------|--------------------|
| 1. Socialism | 2. Luddism | 3. Orientalists |
| 4. Feminism | 5. Capitalism | 6. Revolutionaries |

Improve your learning

1. Which of the following statement about lives of industrial workers are correct? And correct the false statements
 - Workers controlled the industries
 - Living conditions of the workers were comfortable
 - Low wages was one of the reasons for discontent among the workers
 - During the phase of industrialisation there was emphasis on emotions and feeling
 - Romantic writers and artists tried to highlight values of closeness to nature as described in folk tales and folksongs
2. List some of the problems faced by workers of those times. Discuss if such problems exist in our times too.
3. Write a paragraph comparing the ideas of capitalism and socialism. How were they similar or different?
4. How was the idea of equality being similar or differently challenged by women and workers movements?
5. Draw a poster to illustrate the ideas of “liberty, equality and justice” within the context of workers, and women. Identify occasions where these ideas are being violated.
6. Locate the countries in the world map in which the protest movements took place.

Project

Do you find any such social protest movements around you? Interview with the leaders of that movement and prepare a report and present in your class.

Colonialism in Latin America, Asia and Africa

Expansion of Europe and Early Colonialism

Look at the map of the world given below. It shows the world as known to the Europeans some 600 years ago.



Map 1: Map of world known to Europeans in 1400 known as Genoese.

Some 600 years ago the people of the world travelled very little. They usually travelled on the backs of horses or camels or by small boats and ships which only sailed along sea coasts. However, the contact between peoples and countries began to increase as traders travelled far and wide to buy exotic goods and sell them at high prices. Silk and porcelain ware from China, cotton textiles, steel and spices from India, fruits and scents from Arabia and wine from Europe were some of the most sought after goods all over the world. The traders usually purchased and sold them in exchange for gold and silver and made huge profits. So much so that some of them were richer than kings.

Most of the trade routes connecting Europe and Asia around 1400 were controlled by Muslim kingdoms, especially the Ottoman Empire which was constantly at war with the European Christian powers. The Italians were able to work out an understanding with the Arab traders who brought Asian goods to the Alexandria (in Egypt) and sold them to the Italians. As traders and

- Which of the continents were they not familiar with at all?
- Which were the continents whose coastal areas were known to them but not the interior regions?

governments of western Europe like Holland, Spain, Portugal and England realised the importance of this trade, they wanted to find faster and easier routes to countries like India and China, without passing through regions controlled by Italian traders. The Portuguese for example, wanted to find a route around Africa to reach India. The Spanish wanted to know if it was possible to reach India by crossing the Atlantic Ocean. They invested huge fortunes by hiring experienced sea mariners and giving

- Why do you think the Italians were controlling the trade with Asia in 1400 and not other Europeans like Portuguese or Spanish?
- Why were the Portuguese and Spanish keen to find other routes to reach Asia?

them ships and other resources to explore. This led to the discovery of Central America by Christopher Columbus in 1492 and of sea route to India around Africa by Vasco Da Gama in 1498. Columbus was working on behalf of the Spanish queen while Vasco da Gama was working for the Portuguese king. Soon English and Dutch governments too were sending their sailors to these regions.

European Colonies in America

Columbus landed up on what today are called the West Indies – the islands off the coast of South America. He had thought that he had reached India and called the local people ‘Indians’. (That is why the original inhabitants of America are called Native Indians today.) These were simple tribal people who welcomed the visitors and gave them food and shelter. However Spaniards repaid them by enslaving and plundering them – converting them into slave labourers to grow food and mine gold. Eventually virtually all native people of the islands died or were killed.

After Columbus the Spanish government sent several expeditions to conquer



Fig. 17.1: Columbus before the Queen, as imagined by Emanuel Gottlieb Leutze, 1843.

America and plunder it. They expected to find gold and silver mines and vast quantities of these precious metals with local kings. Cortez, a Spanish conqueror led an expedition to massacre the people and plunder Mexico. He eventually killed the local king and put an end to the independent rule of Mexico. Similarly another conqueror named Pizarro plundered and conquered Peru.

Not to be left behind the English landed in North

America and began to set up colonies of English farmers along the eastern coast. The native Americans mostly acted in friendship and extended help and cooperation to the Europeans. This was the time when in England the small peasants were being deprived of their land by landlords. Many of these peasants migrated to North America and wished to settle down there. They forcibly deprived the native Americans of their land and massacred them and drove them into the interior.

As the news of the natural resources of America reached the people of Europe, a stream of land hungry settlers set out to America. They drove off the native people and took over their lands.

Once the initial spree of massacre and plunder subsided the Europeans wanted to settle and exploit the natural resources of America. However, they needed servile labour to do the work. They realised that the native Americans could not be easily enslaved. They therefore began to transport large number of African slaves who had been captured from the interiors of Africa by European (especially Portugese) traders and their agents. These African slaves were transported to America under very inhuman conditions and sold to large landlords and others. About 15 to 20 million African slaves were thus forcibly taken away to America. They were made to work on sugar cane farms, corn fields, tobacco fields and cotton fields. Their produce was taken over and sold in different countries including England and France for huge profits.

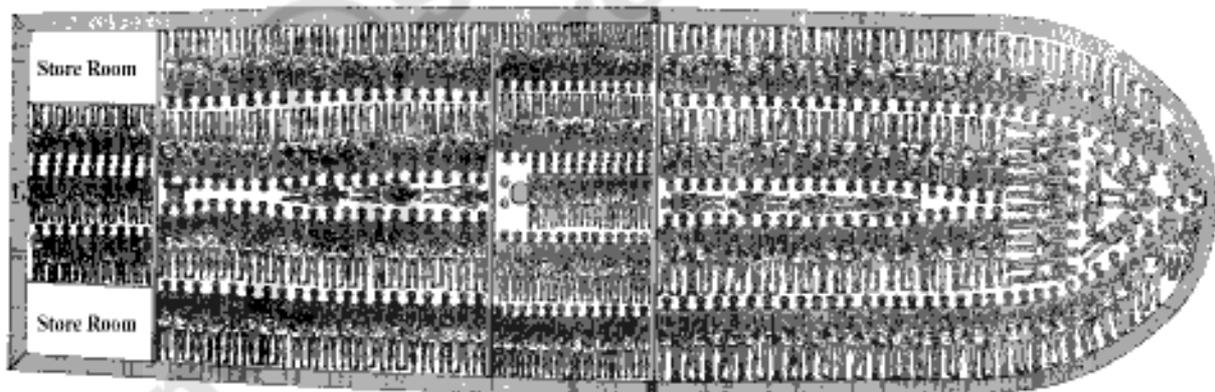


Fig. 17.2: Illustration showing 292 slaves being stowed in the lower deck of ship

‘Latin’ America

During the three hundred years period from 1500 to 1800, most of Central and South America was brought under the control of Spain and Portugal. Since Spanish and Portugese languages are considered off shoots of Latin, these countries are called “Latin American” countries. As about half of the original inhabitants of the continent had been killed or died of diseases brought by Europeans, a large number of people from Europe settled there who also purchased slaves from Africa. The residents of these countries today are a mix of native Indians, Spanish and Portugese



Map 2:
South America - 1800.

settlers and descendents of African slaves. A large number of people are descendents of mixed parents – Europeans who married Indians or Africans.

- Look at the map of South America around 1800 to identify the countries controlled by the different powers.

We saw that a large number of native Indians had been killed. Many small tribal communities survived in deep forests while other communities came under the control of the Spanish. They were heavily taxed, and had to provide labour supply to the mines and farms owned by the Spanish. Most of their temples were destroyed and they were

all converted to Roman Catholic religion. There were several small and large rebellions in 17th and 18th centuries by the Indians in South America, but these were mercilessly crushed as they lacked the arms and ammunitions which the Spanish had.

In most of the Spanish ruled countries all power was concentrated in the hand of Supreme Council located in Madrid (capital of Spain). This council appointed high officials and nobles from Spain to govern the colonies. The Catholic Church also played an important role in the governance of the colonies. Then there were the Spanish settlers who controlled the land and mines of these countries. Some of them were large landlords who had vast estates called ‘haciendas’. Haciendas were estates of thousands of acres which contained silver and copper mines, agricultural lands and pastures and also factories. They were owned by landlords who employed peons or unfree Indians and African slaves to work on them. Besides these there

- Why do you think the Spanish Settlers were not allowed positions of importance in the government of the colonies?

were ordinary Spanish who had settled as small farmers and animal herders. However, the settled Spanish did not have any role in the administration of the colonies which were controlled by the Spanish from Europe.

During the course of time, the Spanish landlords and farmers developed trade and industry in these countries and exported large amounts of agricultural produce like sugar and meat besides some metals like tin and copper.

The economies of the colonies were controlled by Spain in such a way as to serve as source of inexpensive labor and natural resources, and never planned to spark internal development. This situation led to monopolistic trade-relations for the benefit of the economies of the colonial powers. To ensure these monopolistic privileges, the colonial powers forcibly shaped the social and economical dynamics of the colonies.

The colonies were forced to develop cultivation of commercial crops like sugarcane or tobacco or cotton, which were sold cheaply to the dominant countries. They were not allowed to develop industries or trade with other countries. Growing commercial crops on a large scale at low costs was possible because of the large estates which used unfree labour. These estate owners had no incentive to use modern methods of cultivation or production as they had a supply of cheap forced labour.

The profits accumulated by the local elites were used up in luxurious goods display, rather than saving and investing in production. This sustained a very unequal agrarian social structure which also meant acute poverty for the majority of the people.

The colonial system also placed a lot of control on the colonial economy. Strict laws and other measures of social control were established in the colonised countries. Even the manufacture of minimal industrial products such as nails were forbidden, artificially increasing the dependence of the colonies. Thus colonial control forced a kind of 'underdevelopment' of the colonies – prevented them from developing themselves by investing in productive sectors.

The people of the Spanish colonies including old Spanish settlers disliked the control exercised by Spanish nobles over them and a series of revolts broke out against Spain from 1810 in Latin America. They were greatly influenced by the Declaration of Independence by the north American colonies and French Revolution. Between 1816 and 1826 most of the Latin American countries became independent. Simon Bolivar led a revolutionary army which was supported by black slaves and small farmers and also many people from Europe who supported freedom and democracy under the influence of French Revolutionary ideas. This army liberated Venezuela. Another revolutionary army led by San Martin liberated Chile, Peru and Argentina

- You studied about the zamindari system in the Nizam state in Class VIII. Compare the Zamindari system in the Nizam state and the haciendas of South America. What similarities and differences do you find between them?
- Try to formulate the grievances of the following people of the Latin American colonies:
 1. Spanish settlers who owned haciendas
 2. Small Spanish farmers settled in America
 3. Native Americans
 4. African slaves settled in Latin America



Fig. 17.3: An Inca site of worship known as Machu Picchu in today's Peru

by 1817 and Brazil which was a colony of Portugal became independent in 1822. Thus ended the colonial rule of European powers over much of South America.

By 1820s United States of America had emerged as a major economic and political power. It began to regard the South America as a sphere of its influence and actively discouraged any European power to establish control over

this area. The President of USA James Munroe formulated the 'Munroe Doctrine' according to which no European power would be allowed to build colonies in the American continents and US will not interfere in the affairs of Europe or colonies in other continents. Read below an extract of Munroe's speech of 1823:

"The occasion has been judged proper for asserting, as a principle in which the rights and interests of the United States are involved, that the American continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for future colonisation by any European powers."

You may note that Munroe was not supporting the right of the American colonies to freedom but asserting the rights and interests of US. While it asserts that European powers should not consider colonising any American country it allows an American country to colonise these countries.

Britain which had a powerful navy supported the Munroe doctrine. Britain was keen that the American colonies were not under political control of any European power so that they would be free to trade with England and purchase its industrial goods.

Thus even though the direct colonial rule ended, many remains of the old colonial rule remained. Thus the Latin American countries had a social system which consisted of very large landlords on the one hand and a large number of slaves, semi slaves and poor small farmers on the other hand. There were also

villages of poor Indian communities. Industry and trade was under the control of the landlords who had not little interest in developing them as they received sufficient incomes by exploiting servile labour. Thus in many ways old colonialism continued to influence the Latin American countries. The dependence upon developed industrial countries like Britain and US, very high levels of social and economic inequality and very high incidence of poverty due to landlessness has continued to keep these countries undeveloped.

- Why do you think the Latin American countries remained undeveloped despite getting independence from colonial rule?
- In what way did the Munroe doctrine protect the independence of Latin America? Did it also limit their freedom?
- How did Britain gain from the Munroe doctrine?

European Colonialism in Asia

Most countries of Asia, like India, China and Japan were different from Latin American countries in many ways. Most of the Asian countries were densely populated by prosperous peasant communities and were governed by powerful empires defended by vast armies. Thus when the European powers sought to attack the Mughal Empire, they were repeatedly defeated by Mughal armies. However, the Europeans were able to establish power over some important ports like Goa from where they controlled the oceanic trade. The Portugese for example established in 16th century a 'seaborne empire' over the Indian Ocean. All ships travelling on the Arabian Sea or Indian Ocean or Bay of Bengal had to pay a special tribute to the Portugese and if they did not, they were attacked and looted.

The Portugese control of the seas was finally broken by other European powers like Holland and England which too were reaching Asia for trade. Holland and England had set up their own East India Companies in 1600-1602 to handle trade with Asian countries. The Companies were keen to purchase produce from Asian countries like cotton and silk textiles, spices, steel etc. which were in great demand in Europe and fetched very high profit. The first Dutch expedition for example, fetched about 400% profit on its investment!

The European companies had established trading posts in different port cities of India, Africa and Indonesia. Some of them like Holland established political control over some port cities in Indonesia.

Dutch: The people of Holland are called the 'Dutch'. The official name of Holland today is Netherlands.

Soon objections began to develop in Europe over the activities of these companies. They were buying commodities from India with precious metals like gold and silver thus draining Holland and England of their accumulated wealth. It was felt that India will become richer at the cost of European countries as a result



*Fig. 17.4: Dutch imperial imagery representing the Dutch East Indies (1916)
The text reads Our most precious jewel.*

of this trade. Hence there was a great pressure on the Companies to finance their trade in Asia itself.

The Dutch Company responded to this change by conquering extensive lands in countries like Indonesia which did not have very powerful kingdoms then. They could pressurize the local people to sell their products at a cheap price to the Company which also had a monopoly as it did not allow other countries to trade with them. In 1800 the Dutch Government disbanded the Company and established direct rule over Indonesia. Since the government was in deep financial crises it wanted to use Indonesia as a source of revenue. The Dutch forced the native people to deliver products like coffee, sugar and spices as taxes. This was sold in international markets by the government which earned huge profits. As much as 25% of the Dutch government budget came from these

profits. This caused untold hardships for the native people who could not grow necessary food grains or obtain even minimum prices for their commercial produce. This resulted in acute poverty and famines. They rose in many revolts which were brutally suppressed. This policy was also criticised by many people in Holland.

The government finally ended the system of forced delivery of produce in 1870. It now encouraged Dutch capitalists to invest in Indonesia to set up 'plantations' in which a single crop (like rubber, pepper or sugarcane) was extensively planted and managed by Dutch planters. The Dutch introduced coffee, tea, cocoa, tobacco and rubber and large expanses of land became plantations. The plantations were worked by semi-servile workers under overseers. Many of them were even brought from distant countries like India. The produce of the plantations were sold by the owners in international markets especially in Europe. They also invested in mining tin and petroleum. To facilitate the transport of these goods the government invested heavily in railway, as well as telegraph lines etc. The Dutch Indonesia produced most of the world's supply of quinine and pepper, over a third of its rubber, a quarter of its coconut products, and a fifth of its tea, sugar, coffee, and oil. The profit from the Dutch East Indies helped Holland to develop industries and made it one of the world's most significant colonial powers. This power was ended by Japan during the second World War between 1939-45. Indonesia became independent after the world war along with India.

Colonial Expansion in India

You have read about British conquest of India in the earlier classes. This is to help you to remember some of the important stages of this conquest. The Portuguese had established control over some ports like Goa in the early 15th century. Other European powers began to trade with India by the end of 16th century by establishing their trading outposts. Till Aurangzeb was alive, no European power could think of building political power in India. As the Mughal empire declined after 1700, the European companies gradually sought to establish political control over parts of the coastal regions. They began in South India, where the English gained control over Madras and the French over Pondicherry. They also fiercely fought with each other and wanted to establish monopoly trade with India. The English eventually succeeded in defeating the Nawab of Bengal and establishing political control over Bengal in 1757. This laid the foundation of British rule in India. The Company used the revenue of Bengal to finance its purchases in India and also used political power to force Indian artisans and farmers and traders to sell their goods at a very cheap price to it. This helped the company to make huge profits.

China

China like India was one of the most populous countries of the world and had a powerful empire. It was also further east of India and the Europeans could not establish control over it the way they could conquer Latin America or Indonesia. Chinese rulers realized the danger of allowing Europeans to trade freely in China and permitted them to trade only in one city with specially designated traders. They could not even move about the empire and were confined to their residential quarters. In this way the authorities sought to reduce the threat posed by the European traders. The European traders found the trade in Chinese silk and tea very profitable but since the Chinese did not want any European goods, they had to use silver and gold to pay. As we saw earlier this policy was opposed in Europe as it caused drain of precious metals from Europe. The European traders hit upon an item which was in great demand in China but was produced in India. This was opium. The English encouraged Indian peasants to produce large quantities of opium and purchased it from them at very low prices. This opium was smuggled illegally into China



Fig. 17.5: British navy in the first Opium war.



Fig. 17.6: Watercolour on paper titled 'Macao street scene' from 1840. Macao was one of the port cities in China where Europeans were allowed to conduct trade.

and sold there. In return the Europeans purchased silk and tea which they sold in Europe. In this way they did not have to pay the Chinese in silver. As the smuggling of opium increased, the Chinese authorities suspended all trade with European traders even in the one city they had allowed it. This led to what are called the Opium Wars which were fought between China and England which was supported by the other European powers between 1840-42. China was defeated by England which imposed a series of unequal treaties. These treaties allowed England to trade with China without restrictions and allowed the English to establish trading enclaves in China in which only English laws could be in force. England also forced China to give it the most favoured nation treatment, by which any concession given to any other country would be automatically apply to England too.

With this began the loss of independence of China even though the Emperor's rule continued till 1911. We can see that unlike India or the Latin American countries, China was not brought under direct political control of any European power. However, it was made to serve the interests of these powers through unequal treaties which forced China to accept terms that were favourable to the European countries. China thus had to pay heavy war indemnity to the Europeans, allow free trading rights to them, keep the import duties to the minimum, allow the European powers to establish settlements on Chinese soil in which their laws applied and not the Chinese laws etc. Thus while the Chinese government was responsible for handling the day to day administration of the country, the economy came under the control of the Europeans who could now sell their produce in China, purchase raw materials for their industries at low costs and at the same time ensure that local industries did not develop in China.

You may remember that England was not the only country to trade with China. Other European countries like France, Germany, Russia etc. forced the Chinese government to recognise certain parts of China as areas of special influence of these countries, where they had a free entry but not the other countries. This was a kind of partitioning of China without actually doing so. Thus China came to be controlled economically and politically not by one country but by several European

countries. These European countries were joined by a new power that had emerged in Asia itself – Japan. Japan had a political revolution in 1861 and had begun a programme of rapid industrialisation and modernisation. Japan too was seeking colonies from where it could get cheap raw materials and where it could sell its industrial products. It waged a war against China in 1894-95 and forced China to cede much territory and pay damages to Japan.

In this way various European powers and Japan carved their spheres of influence in China. That is why China is considered a semi-colony and not a full fledged colony of any particular country.

- Main products imported by western countries from China was _____.
- The product that western countries tried to sell in China was _____.
- Asian country that tried to influence trade in China was _____.

Colonialism in Africa

Till almost the middle of 19th century the Europeans showed little interest in establishing colonial power in Africa. Between the 16th and early 19th century it was just used as a source of slaves who were sold off in America. Some powers like England used crucial parts of African coast like the Cape of Good Hope as landing points to refresh supplies to their ships on their way to India and China. These powers were of the view that Africa had little to offer the colonial powers in terms of trade.

Explorations: Europeans had called Africa a ‘Dark Continent’ as they had very little information about the interiors of the continent. The entire continent was on a high plateau with a very narrow coastal region. Most of the rivers flowed through the plateau and reached the coasts through narrow gorges and steep water falls. Thus European traders had avoided the interior regions. Throughout the 19th century and especially after 1850 European countries sent expeditions to explore the interiors of Africa, prepare maps of the places, natural features like rivers and mountains, mineral sources, forests and products and the people living there. They used this valuable information to make plans for conquering and colonising these interior regions. The most famous of the European explorers were David Livingstone and H. M. Stanley, both of whom mapped vast areas of Southern Africa and Central Africa on behalf of Belgium. Arduous expeditions in the 1850s and 1860s by Richard Burton, John Speke and James Grant located the great central lakes and the source of the Nile. By the end of the 19th century, Europeans had charted the Nile from its source, traced the courses of the Niger, Congo and Zambezi rivers, and realised the vast resources of Africa. Many of these explorers were also linked to various Christian churches who were keen to spread Christianity among the people of Africa.

As industrialisation proceeded in different countries of Europe like England, France, Belgium, Germany, Italy etc. after 1850, they desperately sought markets

for their products in Africa. They also realised that Africa had many important industrial raw materials to offer like copper, tin, rubber, palm oil, cotton, tea, cocoa etc. The European manufacturers also looked upon Africa as a major market for their produce. Many of these countries like Germany and Italy were late entrants to nation building and industrialisation and were keen to establish the power of their states by acquiring more colonies than other European powers. Africa was the only continent with large population and natural resources which was left for Europe to colonise.

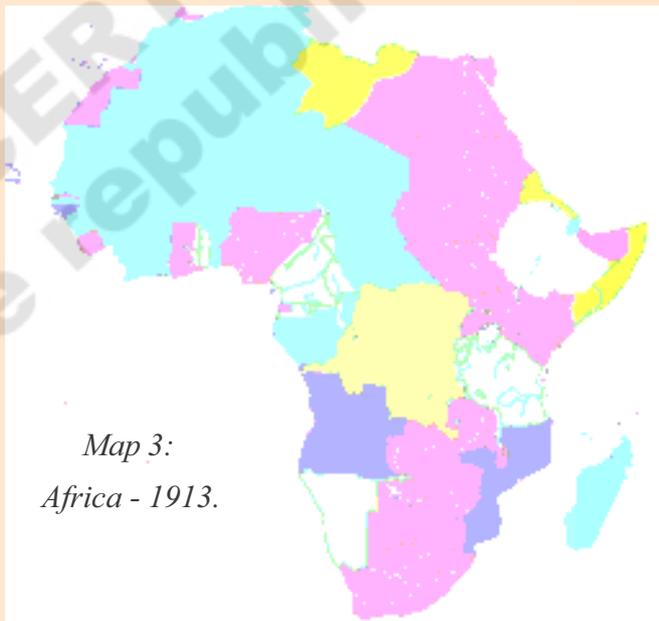
A virtual ‘Scramble for Africa’ began in 1870s. In 1870s only about 10% of Africa was under colonial powers and within forty years almost the entire continent with the exception of Ethiopia and a couple of small states. Ethiopia was able to decisively defeat Italy in a war and thus became the only traditional non-European empire to defeat an European army.

Scramble for Africa: It is used to describe the frantic claim of African territories by the European Countries.

Look at the Map of Africa in 1913 to see the extent of colonial possessions of the European powers in Africa.

Compare the map with a modern map of Africa.

Make a list of the large African countries and write against their names the countries that had colonised them.



Modern Country	Colonial power in 1913
South Africa	
Egypt	
Nigeria	
Ghana	
Libya	
Algeria	
Angola	
Congo	

As time proceeded the competition between the European powers for colonies and territories escalated and could no longer be peacefully 'managed' through negotiations. Thus the First World War broke out in 1914 which was the most destructive war humanity had seen till then.

The Experience of Colonisation – Some case studies

Congo

From 1869 to 1874, Stanley, the explorer was secretly sent by King Léopold II of Belgium to the Congo region, where he made treaties with several African chiefs and persuaded them to give up territories to him. To this territory he added the kingdom of Katanga by killing its king. By 1882 Leopald's African territories grew up to 2,300,000 square kilometres, about 75 times larger than Belgium. It was called the Congo Free State. Léopold II personally owned the colony and used it as a source of ivory and rubber. The Congo Free State imposed a reign of terror on the colonised people, including mass killings and forced labour. Each person in the village was forced to supply a quota of rubber and the hands of those who didn't fulfill this quota was cut off. Up to eight to ten million of the estimated 16 million native inhabitants died between 1885 and 1908. Leopald amassed a huge fortune a part of which he used to undertake many building activities in Belgium. There was much public criticism of this all over the world including Belgium and the Belgian government was forced to finally end the personal rule of its king over Congo and bring it under the rule of the Belgian Parliament.



Leopold - II

A similar situation occurred in the neighbouring French Congo. Most of the resource extraction was run by concession companies, whose brutal methods resulted in the loss of up to 50 percent of the indigenous population.

South Africa

The English had established an outpost in the Cape of Good Hope to help the passing ships to rest and replenish food supplies. Some Dutch farmers had settled in this area to cultivate and sell the produce to the passing ships. They came into conflict with the local African people whom they tried to drive away from their lands. They were called Boers. When the British began to increase their control

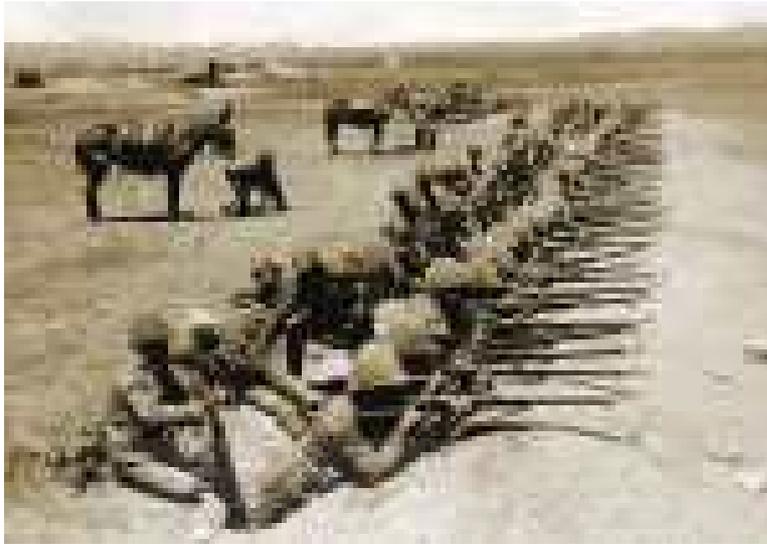


Fig. 17.7: Boer war.

over the area, the Boers were dissatisfied and migrated to new areas and even established independent republics. When gold and diamond mines were discovered in those parts (1869 and 1886), a large number of people from Europe and Africa and India migrated to South Africa and wanted to gain from the mining boom. The British government now wanted to end the independence of the Boers and establish British power over the mining regions. They

fought two bitter wars to gain control over much of what is today called South Africa. These wars ended in 1902 and the British consolidated all the regions of South Africa into one 'Union of South Africa'. By this time South Africa had a very mixed population of European migrants (mainly English and Dutch), Black Africans, Indians and Chinese. The British developed a government system which favoured the Europeans (called Whites and 20% of population) and gave them civic rights of voting etc. and discriminated against the Blacks (75% of population) and Indians (about 5%). Native Africans were subjected to heavy taxation, and had to remain confined to a very small demarcated area and could not acquire land in any other area which was reserved for the Whites. Thus whites had about 90% of all lands. A number of discriminatory laws were passed to ensure that the Blacks and Indians worked for the British settlers in farms and mines. They were also denied civil rights of free movement and right to form associations to express their grievances. This policy of discriminating against the majority of the population based on racial differences is called Apartheid Policy. The African people fought against it for almost the entire 20th century and finally ended it in 1994.

You would have noticed that from 1400 onwards almost the whole of America, Africa, Asia and Australia – that is all continents other than Europe was colonised by European powers. They established their political and economic control over these countries and peoples, and transformed their lives. Yet they were not colonised in the same manner or lead to similar results – you saw how in America a large part of the native population was killed, and plundered and enslaved; how Europeans settled down there; how they brought millions of people from other continents like Africa as slaves to settle in America. You saw how they established control over the people of India but did not kill off the Indians or even enslave them. Nor did they try to settle down in India in large numbers. Rather they tried to establish

control over the natural resources of India through taxation of agriculture, purchasing raw materials at low costs and at the same time selling their industrial products in India. Europeans did not even establish complete political control over China but established spheres of influences where they could trade freely.

The European powers thus changed the economic and social lives of the people of the colonies in such a way as to suit the needs of the European powers. However at the same time they could not stop new ideas of freedom and democracy and nationalism from reaching the colonies. These ideas gave the people of the colonies a new power and identity with which to fight colonialism and eventually win freedom.

Key words

- | | | |
|--------------------|------------------|-------------------|
| 1. Colonialism | 2. Latin America | 3. Ottoman Empire |
| 4. Explorations | 5. Apartheid | 6. Haciendas |
| 7. Munroe doctrine | 8. Opium Wars | |

Improving your learning

- Match the following:
 - Opium war
 - Ottoman empire
 - Personally owned the colony
 - Settling farmers
 - Belgium
 - Spain
 - controlled trade before colonisation
 - China
- How is the word 'discovery' and 'exploration' used by Europeans? What did it mean to people who were already living in those geographical locations?
- What role did trade play in the colonisation?
- How did the lives of native people in different countries affect the colonisation – write two ideas each in the context of – crops cultivated / religion / use of natural resources – for the three continents
- Compare the nature of colonial rule over China and India and Indonesia. What difference and similarities do you find between them?
- Locate the Portuguese, Dutch, British and French colonies in the world map and filled with different colours.

Project

If you were a citizen of Britain, could you support its colonisation? As an Indian citizen could you support or reject colonisation. Give a brief account of your views.

Impact of Colonialism in India

In Class VIII we studied how the colonial policies had an impact on the forests, in Andhra Pradesh. In this chapter, we will understand how forest, industrial and labour policies affected the lives of people across different parts of the country.

How Forests Were Used Before British Rule

From time immemorial, adivasis and villagers living in and near forests got many things they needed for their daily lives from the forests. In a way, they were the owners of the forests. They used the forests for hunting, gathering tubers, fruits, flowers and herbs and for grazing their cattle. In some places, they cut down and burnt the trees and cleared the land to cultivate crops. They cut wood to build their homes and to make implements. They took things for their personal use. If they had to sell some forest produce, it was only to buy other things they needed from the market, such as salt and iron. They did not sell the wood and other things they got from the forest to earn a profit.

Although large tracts of forests were cleared for making fields, and there were tensions between farmers and tribal people, large areas of land continued to remain under forest cover. The farmers and adivasis who used these forests also protected them. When they needed wood, they took care to cut only old trees and allowed new trees to grow. They did not blindly cut large tracts of forest, but only small patches so that the forest would not be destroyed.



Fig. 18.1: Forest in Andhra Pradesh.

- Underline four sentences that represent the situation of adivasis and their use of forests before British rule.

From time to time, the people living in forests gave valuable gifts of ivory, animal skins and honey to the kings and emperors. Those who cultivated land in the forests sometimes also paid taxes. Many adivasis farmed by shifting cultivation also known as jhum agriculture. As long as the forest dwellers did not threaten the security of the kingdoms, the kings and emperors left them alone and did not make laws or rules to control how they used the forests. So for many centuries, the adivasis lived in harmony with their forests, getting many of their daily needs from them and looking after them carefully.

How Forests Were Used During British Rule

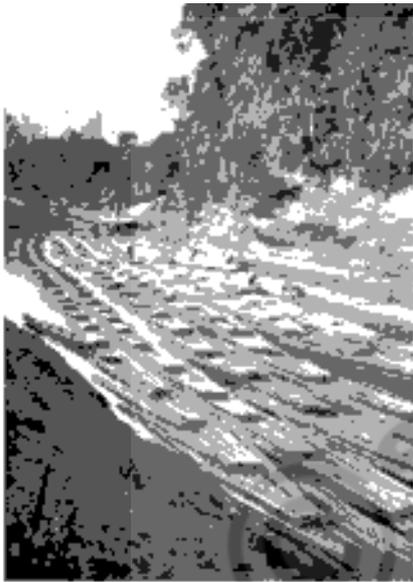


Fig. 18.2: Bamboo rafts being floated down the Kassalong river, Chittagong Hill Tracts.

The situation changed during British rule. At that time, large cities like Kolkata and Mumbai were coming up and the government was laying thousands of kilometres of railway lines all across the country. Huge ships were also being built and mines were being opened. Large quantities of wood were needed for all this, so the trade in timber increased rapidly.

Sleepers for Railway Lines

In 1879, there were almost 8,000 kilometers of railway lines in India. By 1910 more than 50,000 kilometers of railway lines had been laid. Each year, almost one crore wooden sleepers were needed to lay these new railway lines.

The wood for these sleepers was cut from the forests in the Himalayan and Terai regions. Wood was also cut and sold in huge quantities for buildings, mines and ships. This work was done by workers hired by timber traders and forest contractors.

Sleepers: Wooden planks laid across railway tracks; they hold the tracks in position

The British government and British companies made large profits from this trade. The government would hold auctions to sell the contracts for cutting forests. The contractors paid large sums of money to win the contracts, so the government earned a lot of money through these auctions.

Forests in Danger and the Need to Plant New Trees

As the trade in timber increased, the British government was worried. Where would it get wood for its

- Have you seen old wooden sleepers used in railway tracks? What are they being replaced with today? Discuss why this replacement is taking place.



Fig. 18.3: Converting Sal Logs into sleepers in the Singhbhum forests, Chhotanagpur, May 1897.

Adivasis were hired by the forest department to cut trees, and to make smooth planks which would serve as sleepers for the railways. At the same time, they were not allowed to cut these trees to build their own houses.

future railways, ships and houses if the forests were cut down so rapidly? The government felt that it should do something to ensure a regular supply of wood.

So it decided to plant new trees to replace the forests that were being cut down. But the government was not interested in planting trees that were useful to the common people, such as mango, mahua, neem etc. It wanted to plant only trees that provided the timber that was in great demand in the market. So it began to have trees like teak and pine planted in place of the forests that were being cut down.

The Government sets up a Forest Department

Most importantly, the government set up a Forest Department in 1864. The Forest Department made new laws and rules to protect the new forests it was planting. Through these rules it also tried to ensure that the old forests did not vanish completely but were cut more carefully. These rules and laws helped the government to control the forests. The Forest Department officials felt the forests needed to be protected from the people living in or near them.

Adivasi Revolts

We have seen how the conditions of the adivasi farmers who lived in the jungle worsened in British times. The Baiga, Muria, Gond and Bhil tribes of Madhya Pradesh and Chattisgarh, the Koya, Reddy, and Kolam tribes of Andhra Pradesh and the Saora adivasis of Orissa, were all no longer able to practice their old form of cultivation. They were having to become labourers for either the Forest Department or for contractors. Or they were becoming bonded labourers for moneylenders or farmers who had come from outside.

The places where roads and railway lines had reached became easy for people from outside to settle down in Adivasis' areas and seize their land. The power of the Forest Department also increased. Fining and beating up people at the smallest pretext, forcibly entering into people's homes to take away their things, ill-treating women, taking bribes, getting *begar* (free labour) done by people - all this became common.

Against such adverse circumstances, the adivasis protested in many places. During the protests they would burn down many police stations, posts of the Forest Department and houses of the moneylenders. In many places they would set fire to

the entire jungle. Such protests were made by the Santhal adivasis in Jharkhand in 1856, by the Koya adivasis of Andhra Pradesh in 1880 and 1922, by the Maria and Muria adivasis of Bastar in 1910, and by the Gond and Kolam adivasis in 1940.

The Santhal Revolt

From the beginning, the Santhals of Jharkhand had been resisting and protesting against British rule. In 1855-56 there was a massive revolt in which the Santhals began looting and killing the zamindars and moneylenders. The Santhals declared that British rule had come to an end and they were making a free state of the Santhals. But the Santhals were armed only with bows and arrows, and they could not hold their own against the gun-bearing British army. By the end of a fierce battle, 15,000 Santhals were killed and their revolt was finally suppressed.

The Revolt Led by Birsa Munda

Between 1874 and 1901, the Munda adivasis of the Chhotanagpur Plateau, which is now in the state of Jharkhand, came together under the leadership of a young man named Birsa to do away with British rule. Birsa was thought of as *bhagwaan*-god-and people were willing to follow his every word. They wanted to do away with the foreign government that protected the zamindars, the moneylenders and the courts of law that had deprived the Mundas of their lands and their rights over their forests. In the end, the Munda rebellion was suppressed by arresting the leaders and putting them behind bars. Birsa Munda died in prison in 1900. However, the government then felt compelled to make laws to protect the rights of the adivasis of Chhotanagpur.

Forest revolt in Kumaon (1921-22)

In the Kumaon region of Uttarkhand, the peasants refused to cooperate with the Forest Department in protest against the fact that their rights over the forest were being taken away by the government. They openly broke the rules of the Forest Department. Attempts were made to burn the jungles used by contractors. The people refused to do forced labour for the Forest Department.

Because of these movements the British government had to change its policies. In many places they made their rules less strict. In some areas they made new laws saying that people from outside could not purchase the land of the adivasis.

Alluri Seetha Rama Raju

Alluri Seetha Rama Raju was born on July 4, 1897 in Pandrangi village in the Visakhapatnam district. His mother was from Visakhapatnam and his father was a native of Mogallu, near Bhimavaram, and was an official photographer in the central jail at Rajahmundry. Raju's father died when he was in school and grew up in the care of his uncle, Rama Chandra Raju.



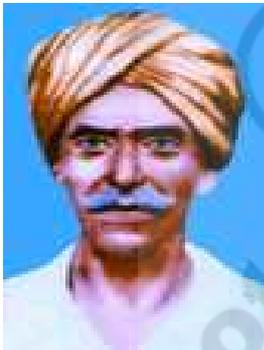
After the passing of 1882 Madras Forest Act, its restrictions on the free movement of tribal peoples in the forest prevented them from engaging in their traditional 'podu' agricultural system. Raju led a protest movement in the border area of East Godavari and Visakhapatnam districts of Andhra Pradesh. Inspired by the patriotic zeal of revolutionaries in Bengal, Raju raided police stations in and around Chintapalle, Rampachodavaram, Dammanapalli, Krishnadevipeta, Rajavommangi, Addateegala, Narsipatnam and Annavaram. Raju and his followers stole guns and ammunition and killed several British army officers, including Scott Coward near Dammanapalli.

In December 1922, the British deployed a company of Assam Rifles, near Pegadapalle under the leadership of Saunders. Raju, who had by then gone underground, resurfaced after about four months and continued the fight, strengthened by tribal volunteers using bows and arrows under the leadership of Mallu Dora and Gantam Dora.

The British campaign lasted for nearly a year from December 1922. Rama Raju was eventually trapped by the British in the forests of Chintapalli shot dead with a rifle in Mampa village.

Komaram Bheem

Komaram Bheem was born in the year 1900 at Sankepally village in Adilabad. His father was killed in an attack by the Forest Department when he was fifteen.



Then Bheem's family migrated to Sardapur village in Kerimeri mandal.

While he was leading his life by *Jhum* farming a jagirdar named Siddhiki, informer of Nizam occupied Bheem's land with rage he killed Siddhiki and escaped from police to hide in Assam. After that for five years he worked as a labourer in coffee, tea plantations. He experienced labour agitations. He learned how to read and write. He understood the situation in his place through his close friend Komaram Sooru, who was his secret informer. He was inspired by the agitations and battles for freedom by Alluri Seetha Rama Raju in Visakhapatnam and Birsa Munda revolt fought against Nizam's rule.

By that time Nizam's government used to collect tax in the name of '*Bambram*' for grazing cattle and collecting firewood for cooking. Adivasies were impressed and inspired by the message *Jal, Jangal, Jameen*, of Komaram Bheem to oppose the tax, and fight for tribal freedom and rights. Nearly 12 villages in Adilabad were ready to fight for land. Bheem formed a guerrilla army with the young men of Gondu and Koya. He gathered and trained tribal people to fight with weapon.

Jodeghat became the central place from where he started the guerrilla battle. Surprised by this battle Nizam attempts of attacks on Adivasies. At last on one full moon day Komaram Bheem died in the battle against Nizam army in Jodeghat forest. After his death Nizam appointed Haimendorf to do some research on the life of tribal people.

The British Government's Industrial Policy

In the 1850's some Indian cloth mills were set up with much courage, first in Mumbai and then in Ahmedabad. Thus cloth came to be made on machines in India too! Some educated people and factory owners demanded that a special tax be levied on cloth coming from Britain so that the cloth being made in India might get a protected market. The special tax would make the British cloth more expensive and this would encourage the sale of cloth produced in Indian factories.

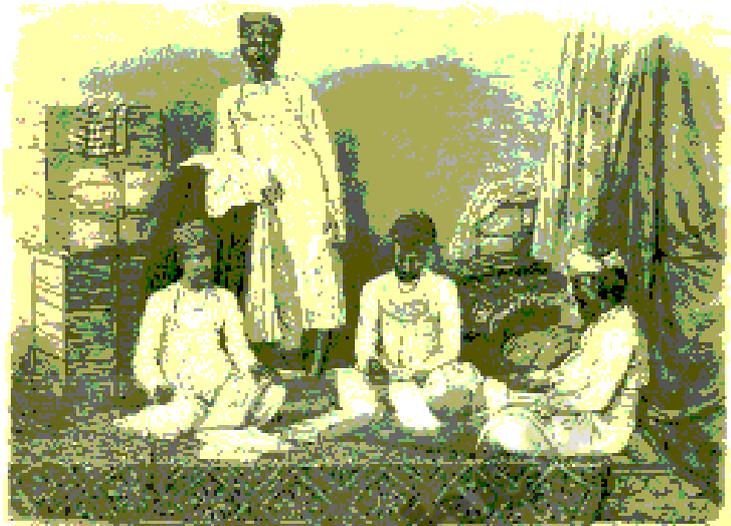


Fig. 18.4: Drawings of Some Marwari traders from Calcutta.

You know that in Britain the government had levied a special tax on cloth made by Indian weavers in order to help the cloth industry of Britain. But the government refused to levy a similar tax in India on British cloth to help Indian industry. The pressure of the British factory owners and traders on the government was so much that it could do nothing against their interests.

In the year 1896, the British government of India experienced a severe reduction in its income. The government began to think of ways in which it could increase its income. It was then, in its hour of difficulty, that the government levied a three and a half percent tax on cloth coming to India from Britain. But in order that this might not harm the sale of British cloth, the government simultaneously levied the same amount of tax (three and a half percent) on cloth being made in India as well.

This tax became the cause of a long drawn conflict between the Indian people and the British government. By imposing a tax on goods made in Indian factories, the government had made it clear that it would protect mainly the interests of the British factories. There was strong opposition to this tax in India and a persistent demand to remove it.

Even without government protection, factories producing cloth, thread, sugar, jute, paper, matches, cement etc. were set up in India. Their rapid development, however, took place only after 1914.

- Discuss what 'protected market' means.
- The Indians demanded that a tax be imposed on British goods coming to India. Do you think this was a fair demand? Should the government have treated British and Indian industries equally?

Indian Industry During The First World War



Fig. 18.5: An early sketch of Bankers in Delhi.

During the First World War (from 1914 to 1918), the import of foreign goods into India fell sharply. One reason was that cargo ships were diverted to war related duties, and hence there was a shortage of ships. Also, in the factories of Europe, things needed for the war were being made - so fewer goods meant for the Indian markets were available.

Under these circumstances, the factories that had been established in India started selling their goods in greater quantities. Enthused by these heavy sales there was a rapid development of industries. After the war came to an end, European machines were purchased in

large numbers for Indian factories and new industries were set up. Indian industrialists began demanding very forcefully that the government levy a tax on foreign goods so that the higher sales of Indian goods might continue in future as well.

For many reasons the government had to accept this demand. After 1917, taxes were levied on numerous foreign goods, one after the other. As a result, factories set up in India were able to develop speedily.

- Why did a rapid development take place in Indian industry during the First World War?

Problems of Indian Industry at the Time of Independence

After a long struggle, Indian industry had got a little help from the British government. Yet, a very large number of factories, banks, ships etc. were in the hands of Europeans, not in the hands of Indians. Being European had many advantages for these companies. They had easy access to all types of officers and authorities of the British government, whereas Indians were never likely to have such reach. All the foreign trade was in the hands of European companies, hence, they had no shortage of funds either.

Despite the influence of the Europeans, Indian industrialists advanced a great deal. For example Indian industrialists were in control of the textile industry. The

greatest example of the achievements of Indian industrialists was the setting up of a steel factory at Jamshedpur by an industrialist named Jamshedji Tata.

The help received by Indian industrialists from the government in the form of a tax on foreign goods, was important but hardly adequate. Many resources and facilities were needed such as railways, roads, electricity, coal and iron. However, the British government did not pay adequate attention to development in these areas.

Indian industrialists also had to buy all their machines from abroad. Industries that would manufacture machinery had simply not started in India.

For the development of industry, help was needed from scientists, engineers, and technicians. Educated workers at all levels were needed. But education was not given adequate importance in India. Foreigners had to be relied on for industrial development because the number of Indian scientists and engineers was very small.

In order to promote the interests of Indian industry, many organisations of industrialists were formed even during British times. One of the most important was the Federation of Indian Chambers of Commerce and Industries (FICCI). Such organisations would keep bringing up the problems of the industrialists before the government.

With the end of the British rule in India and the formation of a free government of Indians the situation changed. The government of India gave encouragement to the growth of industries in a planned fashion.



Fig. 18.6: Some of the pioneers among Indian industrialists J.N.Tata, R.D.Tata, Sir R.J.Tata and Sir D.J. Tata.

- What industries were established in India during British rule?
- What were the difficulties in the development of Indian industries at the time of Independence?

Labourers in Indian Industries

Industrial Towns and Labour Settlements

From 1850 onwards, machine-based industries had begun to be set up in India. The biggest industry was the spinning and weaving of textiles. In 1905, around 2.25 lakh labourers were in the textile industry, 1.5 lakh in the jute industry and about 1 lakh in coalmines.

Needy farmers, labourers and artisans had begun coming from the villages to the cities in the hope of employment. Along with them or after them came their

relatives, neighbours, and friends. The number of labourers in cities mounted. All around factories, huts and tenements of labourers sprang up. Many cities of India, such as Kanpur, Mumbai, Ahmedabad, Kolkata, Chennai became large industrial cities.

Work Conditions

In the early phase, work in the mills would begin every day at dawn, and come to a halt only at sundown. Waking from sleep before the light of day, long rows of labourers could soon be seen wending their way towards the mills - men as well as women and even children.

Once they began work on the machines there was no question of stopping. There was no fixed break even for meals. Taking out 15 - 20 minutes from their work, and asking a fellow labourer to look after their work, the labourers would eat their food. There was no separate place to eat either.

The whole day would pass in the heat, humidity, noise, dust and suffocation of the mill. Only when the sun set and it became impossible to see in the dark, the machines would stop and work would end.

This would go on for months. Even a weekly holiday was not in the rules. Only for the major festivals of the year would the mill owner give a holiday.

However it is not possible to work every day of the year. Illnesses and family duties have to be attended to. People also get exhausted and tired of monotonous work. But whenever a labourer did not go to work, the day's wage would be lost.

In those days payment was made in proportion to the amount of goods produced. The owners laid the condition that "as much as you make, so much will you be paid." Sometimes things went wrong with the machines, or the supply of raw material was delayed or it was inadequate. Although this was not the fault or the responsibility of the labourer, yet the mill owners would deduct the labourer's money. Thus, labourers were not able to get any fixed income each month.

Not only that, at the end of the month, the mill owner would not even make the full payment to the labourers. He would keep some money till the end of the next month. In such a situation if labourers wanted to leave the work and go away they could not - because their earlier month's wages were still stuck with the owner.

There were also plenty of fines. The owners would fine the labourers on the smallest pretext - if they came late, if the cloth got spoilt, if the owner thought the labourer did not work sincerely - there would be fines and they were deducted from the month's wages.

All the labourers - men, women, children - had to work under such conditions for 14 hours in the summers and 12 hours in the winters.

Then, in 1880 something new happened. Electric bulbs began to be fitted in the mills. As the hours of light increased, the hours of work also increased. Now it was



Fig. 18.7: Men, women and children walking towards the mills.

not necessary to stop work when the sun set. And now it became common to take up to 15 hours of work each day from each labourer.

There were so many hardships at work and on top of it there was no security of employment either. If a mill suffered loss of profit, the owner would simply throw out some labourers and reduce the wages of those who continued to work.

However if the mill earned a profit, would the owner ever increase the wages? No, that hardly ever happened!

In the early days of factories in India:

- What were the rules regarding work and rest for labourers?
- What were the rules regarding payment of wages?
- For what reasons would there be cuts and reductions in the labourers' wages?

Labourers' Struggles

Labourers struggled against their oppressive working conditions. From 1870 itself there was one strike after another in Mumbai. To begin with there were no organisations or unions of the labourers. The labourers of each mill would get together to go on strike and would put pressure on the owners.

For instance, in 1892, mill owners of Mumbai were thinking of making a reduction in the wages of labourers. In such a situation labourers of all the mills geared themselves up for a struggle. The government had appointed an official for the inspection of factories. This is what the factory inspector wrote about the labourers: "If a reduction in the wages is actually made, it is possible that there will be an overall strike in Mumbai. Though there is no organised trade union of the labourers, most of the labourers belong to common castes, clans, villages and can easily unite and take steps."

Here's one example of how the labourers would struggle to protect their own interests. In 1900-1901, some 20 mills of Mumbai reduced the labourers' wages by 12½%. In response to this, 20,000 mill workers stopped work and came out on



Fig. 18.8: A picture depicting labour meeting.

strike. All the 20 mills remained closed for 10 days.

Similarly in 1919, when the cost of living was rising but the labourer's wages were not being increased, the labourers of all the mills of Mumbai came out on strike and the mills were closed for 12 days.

The labourers not only fought for their wages, they also fought against the British for the freedom of India. In 1908, the British sentenced the famous Indian freedom fighter, Lokmanya Tilak, to 6 years of exile from India. In a flash, the labourers of all the mills of Mumbai went on strike against this for six days. In this way the labourers participated in the freedom struggle on many occasions through strikes.

- Why did labourers go on strikes?
- Why were strikes used instead of any other action?

Addressing Labourers' Problems

The strange thing was that in the beginning most of the educated people of India paid no heed to the problems of the labourers. What was uppermost in their minds was, how industries could be developed in India. In the earlier phase they did not think much about the kind of working conditions that should be there for labourers.

But even more amazing was that in Britain, factory owners, traders and social workers began to express concern over the conditions of Indian labourers. They began actively drawing the attention of the government to these problems.

The industrialists and social workers of Britain began putting pressure on the government that there should be laws to improve the condition of the labourers in India, similar to the laws in Britain. As a result of this pressure the government seriously began considering making a reduction in the working hours and making laws that would give labourers holidays.

This was deeply resented by the industrialists and educated people of India. They felt that once labourers were given fixed incomes and facilities such as leave, mill production would come down and the expenses of the owners would go up. This would in turn make the things produced in the factories more expensive. If this happened, goods coming from Britain would sell more easily and the development of Indian industries would come to a standstill.

Laws for the Welfare of Labourers : A Time line

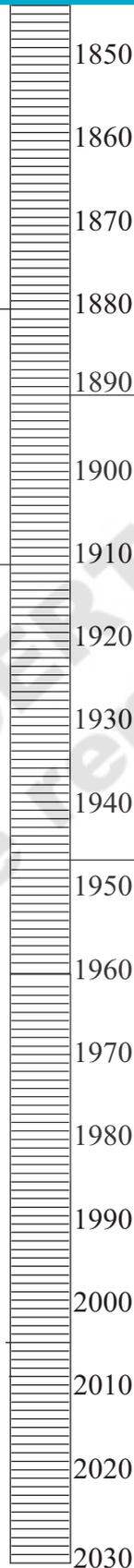
The government implemented the first Factory Act in 1881 and made the following rules especially for the welfare of working children:

- Children below the age of 7 cannot be employed in factories.
- Children between 7 and 12 years of age cannot be made to work more than 9 hours a day and they must be given a one-hour break each day. They must also be given 4 days leave each month.

The largest number of labourers in industries was that of men. It wasn't until 1911 that laws for their welfare were made. According to the Factory Act of 1911:

- Adult male labourers could not be made to work for more than 12 hours every day
- After every six hours of work there would be a break for half an hour.

- In which year were you born? Mark it on this timeline. Also mark the births of your parents and some grandparents or other old relatives you can find out about.
- Find out whether any of the people whose births you marked were affected by the labour laws.



In 1891, laws were made in the interest of women labourers to ensure that:

- Women labourers cannot be made to work more than 11 hours a day.
- Women labourers must be given an hour and half break each day.
- Children's working hours were reduced from 9 to 7 hours/day and factory employers were forbidden to employ children below 9 years of age.

India and Pakistan get independence from Britain

- Why did the educated people of India not pay much attention to the interests of factory labourers in the beginning?
- How would the labour laws have affected the industrialists?
- The British industrialists were against the development of factories in India, yet they took the side of Indian labourers. Why?
- Below what age could children not be employed as labourers in British times?
- What do the present laws set as the minimum age, below which children cannot be employed as labourers?
- According to the labour laws what was the maximum number of hours that children, women and men could be expected to work?



Fig. 18.9: In 1931 these millworkers in Lancashire, England were happy to meet Gandhiji and express solidarity with the Indian freedom movement.

Indian industrialists were suspicious that the British industrialists were just pretending to show concern for the welfare of the Indian labourers. Maybe they actually had their own interests in mind.

The educated people of India had also come to believe that if laws were made in the interests of the labourers, industries would not be able to develop in India. A few lines published in a major newspaper of Bengal in 1875 shows the thinking of those days: “Rather than this new industry be

destroyed it is better that labourers keep dying in high numbers once our industries are well-established, then we can protect the interests of our labourers”.

There was this fear in the minds of industrialists and the educated people, but it was not fully justified. Factories set up in India had begun to earn profits. New mills were being opened up all the time. Whatever labourers was needed, the conditions of the risks, an improvement in working conditions became relevant because industrial development lay in the hands of the labourers.

Labour Organisations

With time the problems of the labourers became well known. Some educated people began supporting the labourers and they began writing articles in newspapers to explain their problems to people. Small organisations for the welfare of labourers also started emerging.

During strikes labourers formed their own organisations with the help of some educated people. These were labour unions, formed to conduct the strikes and negotiate settlements with the mill owners. Slowly, the trade unions became active not just during the strikes but all around the year, promoting the workers’ welfare and rights. Such unions began to be established from the early 1920’s. People influenced by socialist thought were prominent among them. One such union formed was Girmi Kamgar Union with the help of which workers in Mumbai went on a very effective strike in 1928. In Ahmedabad, under the influence of Gandhiji, a powerful union known as the Mazdoor Mahajan was formed.

The formation of labour unions made the government and mill owners very anxious. Now laws began to be made to put restrictions on strikes. The government appointed labour officers to look after the welfare of the labourers. The government

- Which were the two main labourers' unions to be formed in India during British times?
- Why is a union or labourers' organisation important for labourers? Discuss.

began making efforts to ensure that the labourers solve their problems through the labour officers, rather than go to the unions.

But the labourers did not agree to this. They considered it better to form their own organisations to protect their interests. In this way, a struggle continued between the labourers on the one hand and the government and factory owners on the other, on the question of the right to form unions and the right to go on strike.

Key words

- | | | |
|------------------------|-------------------------|---------------------|
| 1. Reserved forest | 2. Protected forest | 3. Auctioning |
| 4. Social Workers | 5. Industrialist | 6. Marwari traders |
| 7. Strike | 8. Labour Organisations | 9. Industrial Towns |
| 10. Labour Settlements | | |

Improve your learning

1. How did people use the forests before the rule of the British? Why was there less danger of the forests being fully destroyed in those days?
2. Against whom did the adivasis revolt? In what ways did they demonstrate their anger and protest? Give some examples.
3. How were the revolts of the adivasis suppressed by the British?
4. Make a timeline to show when adivasi protests occurred in different parts of India. Find out where each of these adivasi struggles took place, and mark their locations on a map of India.
5. What problems did the Indian industrialists have with the British government?
6. During British rule, why was it easier for the European companies rather than Indian companies to set up industries? Give a few reasons.
7. Labour laws were first made for child labourers, then for women and lastly for men. Why were these laws made in this order?
8. How could education affect industrial development? Discuss in the class.
9. Identify the large industrial cities on outline map of India during 20th century.

Project

1. Visit a office of the Forest Department and interview the official on how forest could be preserved and wisely used by both industries and local people.
2. Visit a near by factory in your area find out its history how has the technology changed, where do the workers come from, try and talk to the employers and some workers to get their views.

Expansion of Democracy



Fig. 19.1: Peoples protest

In an earlier chapter you read about the democratic revolutions which established democratic forms of government in Europe. Establishing forms of government which are in accordance with the wishes and requirements of the people, in which all people are able to participate freely and fully, in which all kinds of people find respectable space is a dream for which people are still striving for all over the world.

Let us look at the example of two countries where the people have been struggling for democracy in recent times. These are Libya and Myanmar.

- Locate Libya and Myanmar in the world map. Which continents are they located in?

Libya

Libya was poor country of North Africa which had been colonised by Italy and became free after a long struggle in 1951. When it became independent Italy transferred power to King Idris who ruled the country with the help of a few rich and powerful families.

The people mostly belonged to different tribes which depended upon agriculture and animal rearing in the deserts. These tribes were dominated by families of traditional tribal chiefs. In 1959 vast reserves of petroleum were found in Libya and a lot of wealth poured into the country from the sale of oil. The King and a few powerful families cornered most of this new wealth. Around this time a new wave of nationalism was sweeping in Northern Africa – the young people wanted to establish a modern state that was not subservient to the interest of colonial powers and which worked for the welfare of the people. They also wanted to reform their country – end the oppression on women and end the constant warfare among tribes

and establish unity and peace. They also wanted to ensure that the new wealth from oil was distributed more equitably to all. Many people in Libya too were inspired by these ideas.

In the year 1969 Muammar Gaddafi and a group of 70 young army officers took over the control of Kingdom of Libya. This group of officers called themselves Free Officers Movement. King Idris I fled the country, monarchy was abolished and the country was declared as the ‘Socialist Libyan Arab Republic’. The army completely supported this take over. The movement was under the leadership of a Revolutionary Command Council (RCC) consisting of 12 members from the military. This new leadership wanted to develop Libya as a modern egalitarian country and at the same time follow the basic tenets of Islam which was the religion of the majority of the people.

As we saw above, Libyan society was initially tribal led by the families of tribal chiefs. People were more concerned about their own tribe and its honour than about the welfare of all people. Most people were poor nomadic animal herders, who were also illiterate. Women were confined to purdah and were not allowed to participate in public activities.

- What kind of problems do you think these pose for establishing a democratic government?

The new regime instituted several reforms which led to rapid growth of Libya – nationalisation of oil resources; a programme for extension of cultivation giving irrigated lands to poor workers in order to end nomadism; free universal education for all including women; free medical care for all; distribution of share of oil profits among all citizens; development of highly subsidised housing schemes for all. A major reform undertaken was to ensure freedom and equal status to women. Women were now allowed to have property and business, and take up jobs in the government. As a result of all these Libya was able to achieve highest levels of social welfare in the whole of Africa. Average life expectancy increased from under 50 years to 77 years. Literacy rate for both men and women is over 90% today.

Bringing democratic participation of all people under conditions of tribalism, nomadism, illiteracy and restrictions on women was difficult. The new Libyan leadership tried to encourage participation of common people in public affairs through creating peoples councils and elected People’s Assembly in the centre. As the society rapidly changed due to development, an educated middle class emerged and began to participate in these bodies. However, the government of Gaddafi was not ready to trust these democratic bodies. Instead, it created a parallel system of leadership of ‘Revolutionary Councils’, which were appointed and closely controlled by Gaddafi and the RCC. The democratic bodies had to implement the decisions of these non-elected leaders. As a result people lost interest in these bodies, but the government kept trying to force their participation. The RCC was also very intolerant of criticism and opposition. It used brute armed force to arrest, torture

and kill political opponents. There was no freedom of the press, and independent organisations like trade unions or other associations were not allowed. No political parties were allowed to function in Libya.

Such dictatorial functioning helped to consolidate the position of a few powerful families that controlled the government and the RCC and the oil companies owned by the government. They came to be hated by the people for their high-handedness but the people had no way of expressing their discontent.

Rapid development, urbanisation, emergence of new economic opportunities and jobs meant that tribal way of life was slowly eroded and people of different tribes began to live together and mix in cities. Most of the new jobs were available in government sector which controlled all oil resources, trade and industry. The new middle class emerged in Libya which was keen on taking up business and industry but found such opportunities closed due to government policies and control of the powerful families.



Fig. 19.2: A street painting in Egypt another country where democratic movement occurred during this decade.

In the latter half of 2010 there were movements to establish democratic governments across the Arab world. It began with a small country Tunisia and spread to Egypt, Libya, Yemen, Bahrain and Syria amongst others. This revolutionary wave of demonstrations, protests, and wars occurring in the Arab world that began in December 2010 is now famous as the 'Arab Spring'.

Change in Libya

In cities like Benghazi the civic amenities were deplorable. A large number of its citizens were unemployed, and many families did not have a stable income. People from across the country began to interact through internet and mobile phones to share their misery. However state owned media refused to report them. In early January 2011, a group of people began to protest over delay in the building of houses and political corruption in the city of Bayda in the north eastern part of the country. It began with peaceful street marches. There were attempts by police to crush it down. These protests spread to other cities.

By February the protests began to take a violent turn. In the city of Benghazi people marched against the police, there was firing and people were injured. A section of people also began to get arms and weapons for themselves. These rebels included group of professional soldiers who had left the government's army, but

the majority were ordinary people: lawyers, workers, engineers, teachers, students etc. A coalition of all groups that opposed Gaddafi government came together. The security forces fired at the people. Protesters attacked government buildings. They also captured the local radio station. People demanded different things, from renewing earlier constitution to establishing multi-party democracy. The Gaddafi government also tried to collect its supporters and stage demonstrations in support of him. In the days that followed there was a major civil war. Ordinary people armed themselves, while some army members joined with the people. Gaddafi used his army and air force against the people to crush down the protests and many people were killed.

Many powerful countries of the world like the United States were keen to intervene and end the rule of Gaddafi and install governments that were more favourable to them. This is because of the desire to control the large oil reserves of Libya. These countries also supported sections of the rebels and pushed Libya into civil war. The United Nations Organisation also intervened in support of the rebels by declaring Libya to be a 'no fly zone' – in order to prevent the government from using air force bombing against the rebels. However, since the government continued the air strikes, France, US, Britain etc. jointly used their air force to bombard Libyan government positions. Libyan people eventually succeeded in overthrowing Gaddafi regime.

Civil War : A war within a country between different parties or regions.

A new govt was established and sworn in on 14th Nov 2012 as a result of free and fair elections in which over a 100 political parties participated and 200 representatives were elected. They have also formulated an Interim Constitution. It is possible that there will be a democratic government in Libya in the future. Libya is under the international gaze to see if democracy will be a success in Libya and if it will be able to survive and strengthen their democratic processes.

- Even though the people had benefitted much from the Gaddafi government, why do you think they rose in rebellion against it?
- Even though the Gaddafi government claimed to be a democratic government, what aspects of democracy were absent? What aspects of democratic government were present in it?
- Why are civil liberties important for democracy? Explain in the context of Libyan experience.
- Dictators try to control press and TV media. Do you know of other ways of sharing information and ideas between people?
- The Tunisian struggle began with the death of one trader. The struggle gained strength largely through the use of social networking websites like Facebook. Why do you think it is not easy for governments to control them?

Myanmar (Burma)

Locate Burma (modern name – Myanmar) in the world map. India shares borders with this country. Burma, like India was a colony of the British. It was a major supplier of teak wood, food crop like rice and minerals like tin and precious stones like rubies and sapphires. Burma also became independent just 5 months after Indian Independence. They established a parliament with two houses like as in India. There were elections in which different political parties contested during the year 1951, 1956 and 1960. It appeared that Burma too would emerge as a democratic republic like India. However, the Burmese did not have a united political party to lead them at that time.

You may remember that in 1947 India had a large number of princely states like the Hyderabad state and it took a few years to weld all of them into one Republic. Similarly Burma too consisted of a large number of small states and ethnic-linguistic regions.

In 1947 Aung San, a leader of the Burman ethnic group, who had led the country to independence (and father of current opposition leader Aung San Suu Kyi), and leaders of the many ethnic minorities negotiated an agreement which would guarantee ethnic rights and self-determination, and the inclusion of minorities in the democratic process. However, Aung San was assassinated. Soon after, the Burmese military began its slow advance into the ethnic states to rule by force. Many ethnic groups took up arms to protect their states from Burman rule, demanding autonomy, ethnic rights and an inclusive democracy. As the ethnic strife became complex in 1962 the elected government was overthrown by a coup and army General Ne Win took charge of the country. He tried to nationalise all industries and mineral resources. Free public health and education system were established. Between 1962 and 1965 important laws against landlords and usury were adopted. They aimed at protecting peasants' rights to have land and property and to renting the land. These measures included the law abolishing rents on land in order to help poor peasants.

Autonomy : The freedom for a country, a region or an organisation to govern itself independently.

The army generals have been ruling the country since then. The rulers claimed they were following socialist policies. This only placed the major resources of the country in the hands of the army generals. Unlike Libya where the army rule led to development and welfare activities, Burma did not see any development and became an impoverished country where peasants were forced to sell their children to the army and work in the mines in semi-servile conditions. The Generals who ruled Burma are accused of gross human rights abuses, forcible relocation of civilians and widespread use of forced labour, including that of the children.

Students usually took the lead in staging protest against the military rule but all such protests were suppressed by the army. In 1988, a major protest against the army rule broke out and was brutally suppressed by killing thousands of demonstrators. A new military council took over power in the following year promising elections. It was around this time that Aung San Suu Kyi (pronounced Su Chi) began to fight for reforms in Burma. Suu Kyi has since been a central figure in the protests and the struggle for establishment of democracy in Burma.

The rulers declared elections in 1990. In this election a new political party National League for Democracy (NLD) led by Suu Kyi won majority (80%) of the seats even though Suu Kyi was in prison. But the military refused to hand over power or even release Suu Kyi. She was kept under house arrest. She remained a prisoner in her house without permission to move around and interact with people. She wasn't even able to attend the funeral of her husband or meet her two sons.

There is also international pressure created through economic sanctions. This disallows the trade between Burma and those countries. As a result Burma is not able to export its products or get necessary imports. This puts great pressure on the economy. Even though this ultimately harms the common people of that country, 'economic sanctions' are used to bring pressure on the rulers. Over the years there has been a worldwide pressure on the military government to extend civil liberty and usher in a democratic government.



Aung San Suu Kyi: A poster from Myanmar supporting Democracy.

Change in Burma

But from the year 2008 there have been different forms of change happening in the country, such as conducting a referendum to get a mandate for establishing democracy, changing the name of country to a "Republic of Democracy". However the government continues to be formed partly through the election and partly under nomination from the military. An election was held in 2010 under the observation of United Nations. However, Suu Kyi was barred from contesting the 2010 election and was released from her house arrest only after the election. Her party refused to contest this election. As a result, the military backed Union Solidarity and Development Party won most seats. There are allegations of malpractices of election. The military junta was dissolved and Thein Sein became the President of the country. Military continues to have a controlling position even then.

In 2011 Su Kyi's NLD contested in the elections and have won 43 out of 45 parliamentary seats that were vacant. The freeing of Suu Kyi and the successful participation of NLD in elections are considered the beginnings of democracy in Burma.

The story of Myanmar is still unfinished like that of Libya. There are indications that the country could become democratic and multi-party elections may happen in future.

Nobel Prize Acceptance

Suu Kyi was awarded Nobel Prize for Peace in 1991, while still under house arrest. It was her son who delivered the speech. Let us read an extract from the speech:

"... she would begin by saying that she accepts the Nobel Prize for Peace not in her own name but in the name of all the people of Burma.

Theirs is the prize and theirs will be the eventual victory in Burma's long struggle for peace, freedom and democracy.

... I personally believe that by her own dedication and personal sacrifice she has come to be a worthy symbol through whom the plight of all the people of Burma may be recognised. The plight of those in the countryside and towns, living in poverty and destitution, those in prison, battered and tortured; the plight of the young people, the hope of Burma, dying of malaria in the jungles to which they have fled; that of the Buddhist monks, beaten and dishonoured."

.... Aung San Suu Kyi says, "The quest for democracy in Burma is the struggle of people to live whole, meaningful lives as free and equal members of the world community. It is part of the unceasing human endeavour to prove that the spirit of man can transcend the flaws of his nature."

- Why do you think democracy was not able to establish itself in Burma after its independence?
- Why do you think democracy was not able to establish itself in Libya after its independence?
- How students and the youth played an important role in bringing democracy to both Libya and Burma?
- What similarities of events do you find in the description of events about Libya and Burma?

Answer this keeping in mind – Leadership; nature of struggle; process of transition.

- Compare the struggles for democracy in Libya and Burma on following aspects. – Leadership; nature of struggle; process of transition.
- Underline statements that are relating to Political Party and Voting in both Libya and Burma.
- Track the changes that you may have heard about Libya and Burma during the year 2012 and write it.

Some features of democracy and dictatorship

You read about two recent struggles for democracy. Even though the two countries were very different the people wanted a form of government which had some broad similarities.

Gaddafi and the RCC worked for a welfare state in which the basic needs of all people were met. All people had an opportunity to improve their lives through education and jobs. Similarly the Burmese junta began with some welfare measures and land reforms but went on only to increase the control of the army. The army exploited the resources and people of the country and the people were subjected to extreme poverty. However, both countries were ruled by people who got their main support from the army. They did not allow free elections or functioning of political parties. They both did not allow elected representatives to form government. They did not allow freedom of expression or freedom to form organisations or freedom to protest against government.

In both countries people wanted a government that is elected by the people through a free and fair process. In both countries people wanted freedom to express their views, freedom to organise and freedom to protest against what they think is wrong. In both countries people wanted many political parties to be able to function freely.

Burma was different from Libya in that it began with democratic system and slipped into army rule while Libya moved from monarchy and slipped into army rule. However, both countries did not have conditions for a democracy to flourish - they were deeply divided politically and ethnically which made it difficult to arrive at an inclusive political settlement.

The March of Democracy

Ever since the birth of modern democracy in 17th century England, there has been a gradual transformation of political systems across the world to conform to the democratic ideals. Initially democracy helped the social classes opposed to feudalism and monarchies to build a new kind of social order which rejected privilege by birth and divine right to rule. Europe and America went through great revolutions during the 18th and 19th centuries to bring about this.

Industrialisation and colonialism created conditions all over the world which favoured democratic ideas. An educated middle class which was inspired by the democratic ideas emerged in most countries. Even though each country had its own distinct social system and distinct problems, democracy appeared to create framework for just settlement of those problems. Thus each country is evolving a model of democracy suited to its needs.

In 20th century democracy became the slogan of anti-colonial struggles in Asia and Africa to build independent nations. India, Sri Lanka and South Africa are some examples of this process. Some of these countries were able to attain freedom and establish stable democracies. However, many of them could not build stable democracies (as in the case of Burma or Pakistan). Military dictatorships got established. In countries like Pakistan, military dictatorship and democratic rule kept coming in cycles. In most of the countries under military dictatorship, the

people are organising movements to establish democracy. We saw the examples of Libya and Burma where only recently such changes have begun.

During the 20th century another form of political system came into being which is called 'Communist' system. The Communists believed that Parliamentary democracy of the type of England only helped the rich capitalists to control the country and could not represent the real interests of the poor working people. They believed that this was possible only through the establishment of the 'dictatorship of the proletariat' or the workers. This dictatorship was needed to ensure that the rich and powerful landlords and capitalists did not get any power or opportunity to pursue their policies. Such political systems were established in Union of Soviet Socialist Republic or USSR (Soviet Russia) after 1917, in Eastern Europe after 1945, in China after 1949 and in Vietnam, Cuba after 1960. These countries built 'socialist' economies in which all land and factories were owned by the government and education, health and employment was ensured for all and a degree of equality was established.

However, these countries did not allow multi-party elections and one party usually ruled for several decades; they also established state control over media and did not allow people to freely form associations that opposed government policies. In short they did not allow open criticism of the government policies or attempts to change the government. Thus even though they claimed to be working in the interest of the poorest people and bring about genuine democracy for the poor, they ended up curtailing the freedom of the people. In 1991 the USSR broke up as people demanded freedom and democracy as in other western countries like USA. Following this many small countries of the former USSR, like Russia, Ukraine, Estonia, and other East European countries like Poland and Hungary ended the communist rule and established parliamentary democracies. Of course this has not been easy for them and many of them too have slipped into military dictatorships and ethnic warfare.

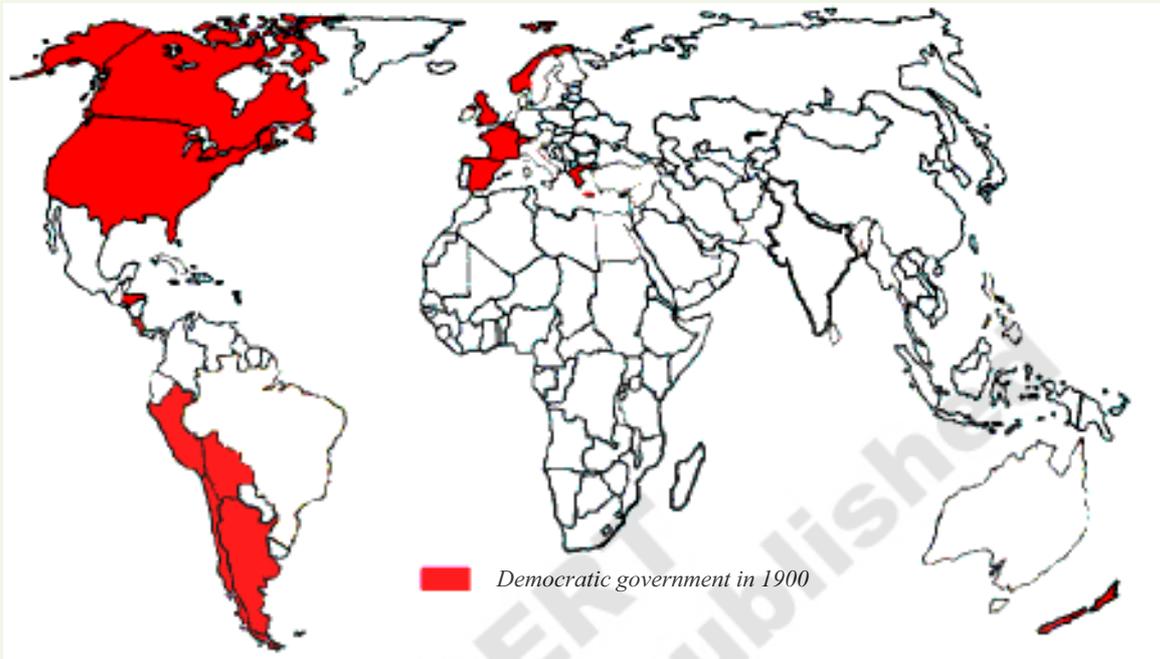
Today it is increasingly becoming clear to all people, that democracy which respects the freedom and rights of all people may be the best way to solve some of the complex problems the countries face. Today a new kind of democracy is being forged across the world in which even the poorest and the most vulnerable people will have a voice and will be able to influence policies and ensure justice and peace for all.

Key words

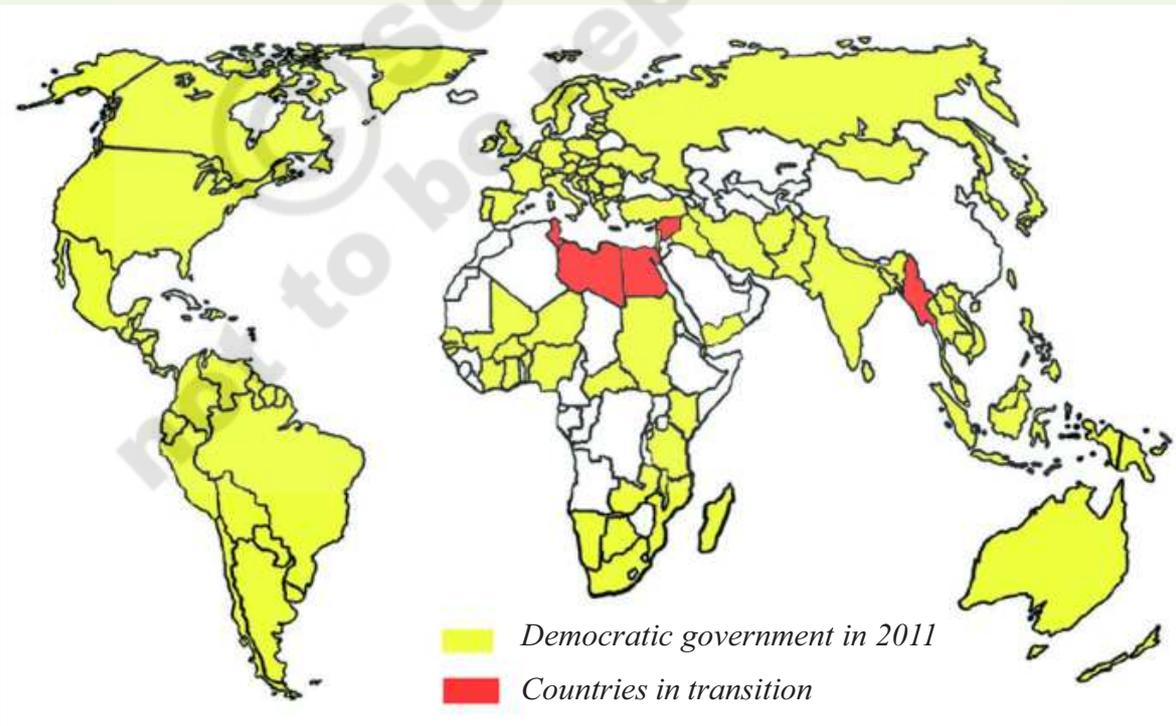
1. Nomadic animal herders
2. Urbanisation
3. Political corruption
4. House arrest
5. Dictatorship
6. Monarchy
7. Feudalism

Improve your learning

Map 1: Democratic Governments in 1900-1950



Map 2: Democratic Governments in 2011



1(a). On the basis of these maps identify up to three countries (in some cases you won't find three countries) that were democratic in these continents for the given years and make a table as given in the next page.

Year	Africa	Asia	Europe	South America
1900				
2011				

- b) Identify some African countries with democracy in 2011
 - c) Make a list of big countries that were not democratic in 2011.
2. Read the maps again and think about the following points.
 - a) Based on the maps can we say that the Twentieth century was a significant era for the spread of democracy?
 - b) During the early 20 century democracy was mostly in the continents like _____ and _____. While in certain continents like _____ and _____ there were almost no democratic countries.
 - c) Even today there are certain areas that have not established democratic governments such as _____ and _____.
 3. Most countries often claim themselves to be democratic by conducting elections. How did this occur in the context of Myanmar and Libya?
 4. Why do you think rulers try to control the media? Do you know how is media controlled in your area?
 5. Write an imaginary dialogue between a person from Libya and Myanmar comparing the events and struggle for democracy in their respective countries.
 6. How do literacy and mass education help for the functioning of democracy?
 7. What is the difference between democracy and dictatorship?
 8. What is the role played by Aung San Suu Kyi in fighting for democracy in Myanmar?
 9. Read the last paragraph of this chapter and answer the question.
What is a new kind of democracy?

Project

Read the newspapers and note down any news regarding struggle for democracy in Libya or Egypt or any other country. Prepare a file of such news clippings and display in the class room.

You read about beginnings of democratic government in England, USA, France in 17th and 18th centuries and about the most recent movements for democracy in Libya and Myanmar. The evolution of democracy has had many ups and downs. Popular rule was established and then it was overthrown and monarchies established. Even where popular rule was established it meant only the participation of a few people in electing the rulers. Slowly the meaning of democracy broadened and it developed many new layers and shades. At the same time it has also raised many questions which are not easy to answer. Let us consider some of these meanings and questions. Discuss the questions in the class room and also outside with your friends and relatives.

Democracy Means Responsible Governments

Democracy means a system in which those in government get their authority from the people and have to answer the people. This usually takes the form of leaders being elected by people after definite intervals.

You saw in the case of Libya that ultimate power lay with the Revolutionary Command Council (RCC) which was self appointed and not elected by the people or bound by what the people's representatives ordered. There were elected assemblies in Libya but these could not take their own decisions and had to implement the orders of the RCC. The RCC was not answerable to anyone except itself. In a democratic country the power of the elected representatives would be supreme and no one who is not directly elected by the people can exercise any authority over them.

The elected government functionaries are answerable to the people in different ways. First of all there will be elected assemblies in which the government functionaries will be asked to explain their work and which will approve



Fig. 20.1: You can vote if you pay tax



Fig. 20.2: You can vote if you are educated



Fig. 20.3: You cannot vote if you are women

- Do the millions of poor people have really any control over the functioning of the elected functionaries? Does democracy mean rule by people or merely rule by elected persons? How can people really participate in government on a day to day basis? Discuss these issues in the class and at home.



Fig. 20.4: You can't vote because you belong to different race



Fig. 20.5: You can't vote because you are too young

the plan of work etc. Secondly, any citizen has a right to demand information on any work done by the government and the government has to make open such information. Thirdly, after a definite period elections will be held again and the functionaries have to seek fresh

election from the people. The people can ask them to explain their work and reject them if they are not satisfied.

Democracy is based on equality and inclusiveness: When we say rule of the people, we mean all people who are adults, whether they are men or women, rich or poor, black or white, Hindus or Christians or Muslims or atheists, whether speak one language or the other... This took a long time to establish. Let us take the right to vote in elections as an indicator. Initially only a few propertied men could participate by voting. Slowly the right was extended in some countries to even the poor men, then to women and eventually to people of all races and religions. USA allowed white woman to vote only in 1920. The discriminations against voting by Black citizens were removed only in 1965. The first nation to allow voting rights for all groups of people was New Zealand in 1893. There, women and the black people led a struggle to achieve this. The first large country to give universal voting rights was the USSR after the Russian Revolution in 1917. Yet even to this day many countries make laws which discriminate against some communities:

- Estonia has made its citizenship rules in such a way that people belonging to Russian minority find it difficult to get the right to vote.
- In Fiji, the electoral system is such that the vote of an indigenous Fiji has more value than that of an Indian-Fijian. Only from the year 2013 elections an equal right to vote is being implemented.

Democracy is based on the fundamental principle of political equality and inclusiveness. In a democracy, each adult citizen must have one vote and each vote must have one value.

- Even today most countries do not give voting powers to people who have migrated from other countries. Actually millions of people across the world live without these democratic rights simply because the countries they live in treat them as illegal immigrants. This is the plight of South American immigrants in the US or Turkish immigrants in France or Germany. Such immigrants and refugees are found all over the world including India. Should they not be part of democratic governance?

Democracy requires active participation of citizens: Often democracy is taken to mean that only voting in elections and choosing the rulers. However, democracy also means that citizens should participate in making policies of the government and laws and even in implementing them. How can this be done? This is possible when all policies and laws are made after extensive public discussions, in which people participate and openly state their needs and views. It also requires that people be

involved in effective implementation of the policies and laws – by forming independent citizens committees. This kind of participation of people is not easily achieved. In many countries even the elected governments do not encourage public participation and try to prevent it. The people also do not show active interest in public affairs and remain apathetic. For example, in the much publicised elections for the President of USA in 2012 more than 40% people did not vote at all.

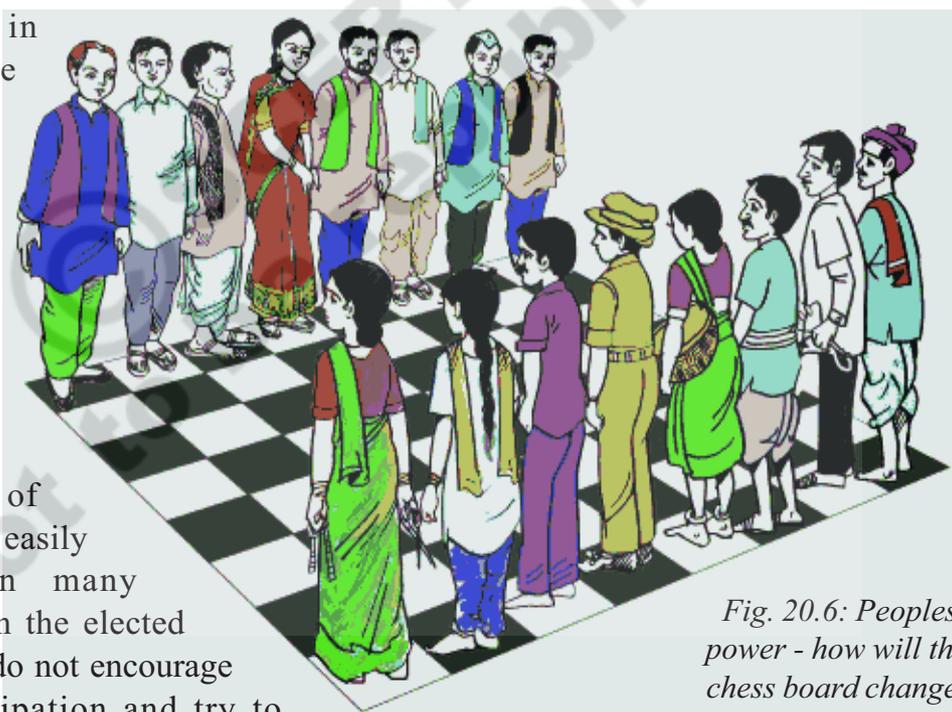


Fig. 20.6: Peoples power - how will this chess board change?

- Why do people not want to participate in governance? Is it because of poor knowledge or lack of interest or a feeling that they don't have a real say in things?

Democracy requires civil liberties: People can participate in decision making only if people are free to know, to discuss, to form independent opinions and express them and form associations to press for their views. These are also called civil liberties. However, these rights were not gained by people easily. Governments sought to control free speech, free associations and the right of people to know about public affairs. Most government decisions were kept secret from people; the newspapers and books were censored and views that went against the government were not allowed to be published; people were not allowed to form political parties or trade unions or organisations of their choice but only one party or officially sponsored parties were allowed to function. Many of these rights for example were not available to the people of the USSR even though there was universal right to vote and periodic elections. That is why they had to put up with

- Many governments give people the civil liberties. But they keep a careful watch on the activities of the citizens by tapping their telephones and letters, spying on them etc. Do you think this is justified?

one party rule for nearly 60 years. Even today these rights are not available to people in all countries. Restriction on civil liberties helps governments to remain in power.

Democracy requires equality: We noted that democracy requires political equality – that each person will have one vote. However, this political equality to be really effective requires equality of social and economic status. If the society is divided into highly unequal classes of rich and poor or high castes and dalits,

Table 1: Inequality of Incomes in Selected Countries

Country	Share of National Income (%)	
	Top 20	Bottom 20
South Africa	64.8	2.9
Brazil	63.0	2.6
USA	50.0	4.0
United Kingdom	34.5	9.6
Denmark	34.5	9.6
Hungary	34.5	10.0

- Why do you think such high level of inequality persists even where the countries are democratic and government works in the interest of all people?

then the political equality will become meaningless. Those with higher status and wealth can easily force the rest to vote according to their choice. In a large number of families the male heads of family decide for whom everyone in the family, including women, should vote. In many countries like the USA most of the media are owned by very rich corporate houses or media barons. They effectively manipulate and influence public opinion by what they highlight and what they black out. The rich and powerful also have immediate access to members of the legislature and the ministers, and are in a position to influence their policies and programmes.

On the other hand the poor and illiterate people have no such access to the government circles. Thus the government of many of these countries follow policies which seem to be contradictory to the interests of the poor and in favour of the rich. Thus it can be said that true democracy cannot be attained unless there is social and economic equality along with political equality.

- If a party is repeatedly voted to power does it mean that people really want it to come to power, or that there is no alternative or that people are not allowed to vote for any alternative? Answer on the basis of the following three case studies:
 - a. Since its independence in 1930, Mexico holds elections after every six years to elect its President. The country has never been under a military or dictator's rule. But until 2000 every election was won by a party called PRI (Institutional Revolutionary Party). Opposition parties did contest elections, but never managed to win. The PRI was known to use many unfair means to win elections. Teachers of government schools used to force parents to vote for the PRI.
 - b. Zimbabwe attained independence from White minority rule in 1980. Since then the country has been ruled by ZANU-PF, the party that led the freedom struggle. Its leader, Robert Mugabe, has been ruling the country since independence. Elections have been held regularly and always won by ZANU-PF. President Mugabe is popular but also uses unfair practices in elections. His government has changed the Constitution several times to increase the powers of the President and make him less accountable. Opposition party workers are harassed and their meetings disrupted. There is a law that limits the right to criticise the President. Television and radio are controlled by the government and give only the ruling party's version.
 - c. In China, elections are regularly held after every five years for electing the country's parliament, called Quanguo Renmin Daibiao Dahui (National People's Congress). The National People's Congress has the power to appoint the President of the country. It has nearly 3,000 members elected from all over China. Some members are elected by the army. Before contesting elections, a candidate needs the approval of the Chinese Communist Party. Only those who are members of the Chinese Communist Party or eight smaller parties allied to it were allowed to contest elections held in 2002-03. The government is always formed by the Communist Party.

Democracy requires free and fair elections: If people of a country have to really choose the best persons or parties to represent them in the government, then it is very important that free and fair elections take place. That is elections in which any party or individual can compete and no party has any special advantage. In many countries like USSR, Myanmar or Libya only one or two parties were allowed to compete. As such people had no choice but to vote for them. Even in other countries parties in power use government machinery to persuade or force people to vote for them. They also manipulate in such a way as to reject the

candidature of opposition candidates, or remove the names of supporters of the opposition from electoral rolls. Holding elections of any kind is not sufficient. The elections must offer a real choice between political alternatives. And it should be possible for people to use this choice to remove the existing rulers, if they wish so. If we wish to assess a democracy, it is important to look at the elections. But it is equally important to look before and after the elections. There should be sufficient room for normal political activity, including political opposition, in the period before elections. This requires that the state should respect civil liberties of the citizens. So, a democracy must be based on a free and fair election where those currently in power.

Democracy requires respect for law and minority opinion: While democracy implies a popularly elected government it does not mean rule of popular leaders who do what their supporters want them to do. All democratic governments need to abide by laws and allow independent functioning of the judiciary and the executive officers as laid down in the law. Democracies also need to safeguard the interests of those who hold opinion contrary to the majority of the people, their right to hold those views, propagate them and persuade people to accept them have

Some questions on elections and democracy

Let us take the example of an election in India. Of all the residents in a region let us assume that 1000 have right to vote. In any typical election about 60% people go to cast their votes. Thus we have 600 people voting in an election. Let us assume that there are ten candidates in the election and of these the winning candidate gets about 250 votes, the second candidate gets 200 votes and the other candidates between them get about 150 votes. We declare the one with 250 votes the winner. Does he or she really represent the views and interests of the residents of the locality? Actually he or she only represents one fourth of the voters. Is this a fair democratic arrangement? Can there be better ways of representing the people in decision making bodies?

to be respected even if the majority doesn't agree with them. The biggest challenge before democracy is to deal with people who hold opinions against democracy itself – those who think that democracy has to be replaced by some kind of dictatorship; those who believe that power should belong only to a particular class of people of a particular religion or race. Should they be allowed to propagate their views? Both these aspects give us another feature of democracy: a democratic government rules within limits set by constitutional law and citizens' rights.

Democracy – Majoritarian Vs Inclusive

Often democracy is taken to mean the rule of the majority. In any country there will be people of diverse views and cultures. So differences of opinions are bound to arise. What is the democratic way to settle such differences? We often use the method of deciding by majority – that is if we take a vote the view point that gets maximum support will be accepted by all. While this is useful in many simple

situations, it can be very divisive in complex situations which involve whole communities or classes of people. A simple majoritarian approach may lead to alienation of minority communities. In such situations it may be more useful to take an inclusive approach which accommodates the needs of both the majority and the minority people. Let us look at two important examples in this regard.

Belgium and Sri Lanka

Belgium is a small country in Europe. Of the country's total population, 59 per cent lives in the Flemish region and speaks Dutch language. Another 40 per cent people live in the Wallonia region and speak French. Remaining one per cent of the Belgians speak German. In the capital city Brussels, 80 per cent people speak French while 20 per cent are Dutch-speaking.

The minority French-speaking community was relatively rich and powerful. This was resented by the Dutch speaking community. This led to tensions between the Dutch-speaking and French-speaking communities during the 1950s and 1960s. The tension between the two communities was more acute in Brussels. Brussels presented a special problem: the Dutch-speaking people constituted a majority in the country, but a minority in the capital.

Sri Lanka is an island nation, south of India. Sri Lanka too has a diverse population. The major social groups are the Sinhala-speakers (74 per cent) and the Tamil-speakers (18 per cent). Most of the Sinhala-speaking people are Buddhist, while most of the Tamils are Hindus or Muslims.

Should the majority communities views prevail in these two countries? Now, let us look at what happened in both these countries.



Majoritarianism in Sri Lanka

In Sri Lanka, post its independence in 1948, the leaders of the Sinhala community sought to secure dominance over government by virtue of their majority. As a result, the democratically elected government adopted a series of majoritarian measures to establish Sinhala supremacy.

Sinhala was made the only official language, disregarding Tamil. The governments followed preferential policies that favoured Sinhala applicants for jobs. A new constitution stipulated that the state shall protect and foster Buddhism. All these government measures, coming one after the other, gradually increased the feeling of alienation among the Sri Lankan Tamils. As a result, the relations

between the Sinhala and Tamil communities strained over time. The Sri Lankan Tamils launched parties and struggles for equal status. Autonomy to provinces populated by the Tamils was repeatedly denied. By 1980s several political organisations were formed demanding an independent Tamil Eelam (state) in northern and eastern parts of Sri Lanka.

Map 2: Ethnic Communities of Sri Lanka



Sinhalese
Sri Lankan Tamil
Indian Tamil
Muslim

The distrust between the two communities turned into widespread conflict. It soon turned into a civil war as Liberation Tigers of Tamil Eelam (LTTE) an extremist organisation established independent rule over some provinces inhabited by Tamils. In the final war the Sri Lankan army defeated the LTTE. It also established a brutal control over those provinces killing and uprooting thousands of Tamil People. Many families were forced to leave the country as refugees and many more lost their livelihoods. Prior to the civil war Sri Lanka had an excellent record of economic development, education and health. But the civil war has caused a terrible setback to the social, cultural and economic life of the country.

Accommodation in Belgium

The Belgian leaders took a different path. They recognised the existence of regional differences and cultural diversities. Between 1970 and 1993, they amended their constitution four times so as to work out an arrangement that would enable everyone to live together within the same country. The arrangement they worked out is different from any other country and is very innovative. Here are some of the elements of the Belgian model:

- Constitution prescribes that the number of Dutch and French-speaking ministers shall be equal in the central government. Some special laws require the support of majority of members from each linguistic group. Thus, no single community can make decisions unilaterally.

- Many powers of the central government have been given to state governments of the two regions of the country. The state governments are not subordinate to the Central Government.

- Brussels has a separate government in which both the communities have equal representation. The French-speaking people accepted equal representation in Brussels because the Dutch-speaking community has accepted equal representation in the Central Government.

Apart from the Central and the State Government, there is a third kind of government. This 'community government' is elected by people belonging to one language community – Dutch, French and German-speaking – no matter where they live. This government has the power regarding cultural, educational and language-related issues.

You might find the Belgian model very complicated. But these arrangements have worked well so far. They helped to avoid civil strife between the two major communities and a possible division of the country on linguistic lines. When many countries of Europe came together to form the European Union, Brussels was chosen as its headquarters. A great honour to Belgium of the faith placed in it by the European community and an acknowledgment of Belgium's ability for fair play and justice.

What do we learn from these two stories of Belgium and Sri Lanka? Both are democracies. Yet, they dealt with the question of power sharing differently. In Belgium, the leaders have realised that the unity of the country is possible only by respecting the feelings and interests of different communities and regions. Such a realisation resulted in mutually acceptable arrangements for sharing power. Sri Lanka shows us a contrasting example. It shows us that if a majority community wants to force its dominance over others and refuses to share power, it can undermine the unity of the country and force the country back several hundred years with internal conflicts and civil wars.

Dignity and freedom of the citizens

Democracy stands much superior to any other form of government in promoting dignity and freedom of the individual. Every individual wants to receive respect from fellow beings. Often conflicts arise among individuals because some feel that they are not treated with due respect. The passion for respect and freedom are the basis of democracy. Democracies throughout the world have recognised this, at least in principle. This has been achieved in various degrees in various democracies. For societies which have been built for long on the basis of subordination and domination, it is not a simple matter to recognise that all individuals are equal.

Take the case of dignity of women. Most societies across the world were historically male dominated societies. Long struggles by women have created some sensitivity today that respect to and equal treatment of women are necessary ingredients of a democratic society. That does not mean that women are actually always treated with respect. But once the principle is recognised, it becomes easier for women to wage a struggle against what is now unacceptable legally and morally. In a non-democratic set up, this unacceptability would not have legal basis because the principle of individual freedom and dignity would not have the legal and moral force there. The same is true of caste inequalities. Democracy in India has strengthened the claims of the disadvantaged and discriminated castes for equal status and equal opportunity. There are instances still of caste-based inequalities and atrocities, but these lack the moral and legal foundations. Perhaps it is this recognition that makes ordinary citizens value their democratic rights.

Expectations from democracy also function as the criteria for judging any democratic country. What is most distinctive about democracy is that its

examination never gets over. As democracy passes one test, it produces another test. As people get some benefits of democracy, they ask for more and want to make democracy even better. That is why, when we ask people about the way democracy functions, they will always come up with more expectations, and many complaints. The fact that people are complaining is itself a testimony to the success of democracy: it shows that people have developed awareness and the ability to expect and to look critically at power holders and the high and the mighty. A public expression of dissatisfaction with democracy shows the success of the democratic

project: it transforms people from the status of a subject into that of a citizen. Most individuals today believe that their vote makes a difference to the way the government is run and to their own self-interest.

- Discuss the solutions given in both the countries to accommodate social, religious and linguistic diversity in them.

Key words

1. Union of Soviet Socialist Republic or USSR
2. Public discussions
3. Civil liberties
4. Social and economic equality
5. Internal conflicts

Improve your learning

1. How does democracy produce an accountable, responsive and legitimate government?
2. What are the conditions under which democracies accommodate social diversities?
3. Give arguments to support or oppose the following assertions:
 - A. Industrialised countries can afford democracy but the poor countries need dictatorship to become rich.
 - B. Democracy can't reduce inequality of incomes between different citizens.
 - C. Government in poor countries should spend less on poverty reduction, health, education and spend more on industries and infrastructure.
 - D. In democracy all citizens have one vote, which means that there is absence of any domination and conflict.
4. In the context of assessing democracy which among the following is odd one out?
Democracies need to ensure:
 - A. free and fair elections
 - B. dignity of the individual
 - C. majority rule
 - D. equal treatment before law
5. Studies on political and social inequalities in democracy show that
 - A. democracy and development go together.
 - B. inequalities exist in democracies.
 - C. inequalities do not exist under dictatorship.
 - D. dictatorship is better than democracy.

6. Here is some information about six countries. Based on this information, how would you classify each of these countries? Write 'democratic', 'undemocratic' or 'not sure' against each of these.
- Country A:** People who do not accept the country's official religion do not have a right to vote
- Country B:** The same party has been winning elections for the last twenty years
- Country C:** Ruling party has lost in the last elections
- Country D:** The parliament cannot pass a law about the army without the consent of the Chief of Army
- Country E:** The parliament cannot pass a law reducing the powers of the judiciary
- Country F:** All the major economic decisions about the country are taken by officials of the central bank which the ministers cannot change.
7. Each of these statements contains a democratic and an undemocratic element. Write out the two separately for each statement.
- A. A minister said that some laws have to be passed by the parliament in order to conform to the regulations decided by the World Trade Organisation
- B. The Election Commission ordered re-polling in a constituency where large scale rigging was reported
- C. Women's representation in the parliament has never reached 10 per cent. This led women's organisations to demand one-third seats for women.
8. Write a response to the following arguments against democracy:
- A. Army is the most disciplined and corruption-free organisation in the country. Therefore army should rule the country.
- B. Rule of the majority means the rule of ignorant people. What we need is the rule of the wise, even if they are in small numbers.
- C. If we want religious leaders to guide us in spiritual matters, why not invite them to guide us in politics as well. The country should be ruled by religious leaders.
9. Locate the following countries in the world map.
1. Srilanka 2. Belgium 3. Russia 4. America (USA)
10. Read the first two paragraphs under the subheading 'Dignity and freedom of the citizens' and answer the following question.
Write about the dignity and freedom of the citizens in a democratic country.
11. What are the reasons for the people to fight for democracy?

Project

Conduct elections in your class to elect class representative with the help of your teacher.

Human Rights and Fundamental Rights

We have come across various struggles of people to achieve equality with others in the previous chapter. Yet even after independence, forms of discrimination have not completely vanished. The makers of the Indian Constitution were aware that it is not easy to wipe out all forms of discrimination and so developed a Constitution which would allow laws to emerge to meet the varying needs and goals of the society. The

- Write few important features of Preamble you studied last year

Constitution envisaged a society that is based on the certain principles listed in the Preamble. Any law which violates the Preamble will be struck down.

What are the Rights?

Rights are reasonable claims of persons. These claims are protected by law. All of us would like to live happily, without being made to feel inferior. Similarly we have the responsibility to allow others to enjoy their rights as well. Your rights come with the responsibility to protect and respect the rights of other persons as well.

The concept of equal rights has been a changing one. We have seen elsewhere that not everyone was treated equally all the time. Black people were traded as slaves, women were not given the right to property and so on. But today we would consider these as unjust and a violation of that person's rights.

Rights also become significant in the context of democratic systems. Democratic systems strive to persevere equal ground for all. They allow people to express their opinion and make choices, including the choice of being represented by people they believe in. This choice is called a Vote.

Democracy safeguards not just the majority but also the minorities. Democracies place all people whether majority or the minority on the same plane. The Indian Constitution ensures that each persons rights irrespective of caste, race, gender, religion, and creed is protected. However there are some rights which are so fundamental to personhood that they have been given a sacred place in the Constitution. They are known as Fundamental Rights.

These rights are so important that they are also expressed by many of the democratic nations the world over and have been codified by the United Nations Organisation (UNO) and find a place in the Universal Declaration of Human Rights (UDHR). The UDHR is a document to which many of the modern states are signatory too implying that they will uphold all the basic human rights mentioned there.

Fundamental Rights in Indian Constitution

Fundamental Rights find a place in Part 3 of the Constitution of India. These rights give people a protection from oppressive governments and place a duty on the government to uphold them. They are so important that if they are violated by the government, any person has a right to approach the High Court or the Supreme Court directly without going to the lower courts for relief. Writ is an authority given to the court to issue directions to the government to protect and enforce any constitutional right. It is an inherent power given to the court. The court can *suo motu* (on its own motion) take cognizance of a violation of a fundamental right.



Fig. 21.1:
Fundamental Rights

Right to Equality

The Indian Constitution guarantees the Right to Equality. It includes most notably the following rights:

1. Equal Protection of Law

The Constitution says that the government “shall not deny to any person equality before the law or equal protection of the laws.” This means that the laws apply in the same manner to all, regardless of a person’s income, status, background etc. This is called the rule of law.

The Right to equality, guarantees that all citizens shall be equally protected by the laws of the country, whether she be an ordinary citizen, a minister, government official or a small farmer. Everyone is under the same law. It means that the State cannot discriminate against and cannot mete out preferential treatment to any of the Indian citizens on the basis of their caste, creed, colour, sex, gender, religion, office or place of birth.

Even a Prime Minister may be tried in a court of law and will have to attend the courts just as an ordinary person would if there is an accusation of a crime. Or in

the same way, if some official is found guilty of a crime then he or she should be given the same punishment as applies to any other person. No one can claim special treatment because of his or her class or background.

In the modern State, the executive arm of the Government is armed with vast powers, in the matter of enforcing bye-laws, rules and regulations as well as in the performance of a number of other functions. The equality clause prevents such power being exercised in a discriminatory manner.

2. Social Equality

Another feature of this right is Social Equality. The State shall not discriminate against any citizen on grounds only of religion, race, caste, sex, and place of birth or any of them. Further, on the basis of any of these grounds a citizen cannot be denied access to shops, public restaurants or the use of wells, tanks, roads and places of public resort maintained wholly or partly out of State funds or those which are dedicated to the use of the general public. The significance of the Article is that it is a guarantee against every form of discrimination by the State on the basis of religion, race, caste, or sex.

This right has, however, two notable exceptions in its application. The first of these permits the State to make special provisions for the benefit of women and children. The second allows the State to make any special provisions for the advancement of any socially and educationally backward classes of citizens or for the Schedule Castes and the Schedule Tribes.

The special treatment meted out to women and children is in the largest and the long range interest of the community itself. It also recognises the social customs and background of the country as a whole, and the historical disempowerment and oppression of these people groups. In an attempt to uphold this right, laws governing civil matters like property laws today have been amended to include women as coparceners in joint family property

Thus the Constitution permits the discrimination in reverse by reserving seats in educational institutions and by reserving posts or appointments in public service. The extent of such reservation assumes great importance for the citizen, for the general public and for the State. For example, medical colleges must admit a certain percentage of students who belong to OBC/SC/ST.

3. Equality of Opportunity

The Constitution guarantees equality of opportunity for all citizens in matters relating to employment or appointment to any office under the state. No citizen shall on grounds only of religion, race, caste, sex, descent, place of birth, resident nor will any of them be ineligible for or discriminated against in any respect of any employment or office under the State.

However, a notable exception lies to this right again, is that the State can make provisions for the reservation of posts in favour of any backward class of citizens, which in the opinion of state is not adequately represented in the services under the state. That is the state may also reserve posts for members of Backward Classes, Scheduled Castes or Scheduled Tribes which are not adequately represented in the services under the State to empower and lift the weaker sections of the society.

4. Abolition of Untouchability

The Constitution in no uncertain terms abolishes Untouchability - its practice in any form. Further the practice of untouchability is an offence and anyone doing so is punishable by law even attracting a jail term. The Protection of Civil Rights Act provides penalties for preventing a person from entering a place of worship or from taking water from a tank or well.

5. Abolition of Title

In another move to remove arbitrary and unequal classification of the aristocratic class and the bourgeoisie, the Constitution prohibits the State from conferring any titles. The British government had created an aristocratic class known as Rao Bahadurs and Khan Bahadurs in India – these titles were also abolished. Citizens of India cannot accept titles from a foreign State. However, military and academic distinctions can be conferred on the citizens of India. The awards like the Bharat Ratna, the Paramveer Chakra and the Padma Vibhushan cannot be used by the recipient as a title and do not, accordingly, come within the constitutional prohibition.

- What kinds of rights to equality does the Constitution ensure? Give examples.
- Discuss whether you think each of the following is a violation of the Fundamental Right to Equality. Also discuss whether you think it is constitutionally right or wrong to do such things.
 - While filling water from a public source some people object if the vessel of another person touches their pots.
 - Some communities are never provided a place to live within the village but always outside.
 - In some schools, certain children are not allowed to serve water because they belong to a particular caste.
 - Members of some communities do not go to many places of worship because they fear that they will be ill treated or beaten up.
- What would happen if the Fundamental Right to Equality were not in the Constitution? Discuss.

Right to Freedom

The Constitution of India also guarantees certain individual rights that were considered vital by the framers of the constitution. The Right to Freedom guarantees the following six freedoms:

1. Freedom of speech and expression: This enables an individual to participate in public activities. Citizens are free to express their views in many ways such as through meetings, publications, plays, paintings etc. However this right is a restrictive right and can be curtailed on the grounds of public order, security of State, morality and public good. Hence movies are subject to review by the Censor Board in the interests of public good, decency and morality.

Again there are various laws regulating free speech. Although we have the right to free speech, it is a right which cannot be used without any thought. Our free speech must not be defamatory, immoral or illegal. Again there are other laws forbidding people to incite others/ tell others to rebel against the government.

2. Freedom to assemble peacefully without arms: On which the State can impose reasonable restrictions in the interest of public order and the sovereignty and integrity of India.

People have the right to come together or assemble for many reasons such as to hold meetings about their rights, to discuss their problems or business, to



Fig. 21.2: A rally

exchange ideas and share views etc. Everyone also has the right to carry out peaceful demonstrations, public meetings and rallies.

However, there are some restrictions on this right – for example, any assembly should be conducted in a peaceful manner without the display or use of arms. Similarly, whenever a demonstration or a rally is organised, prior permission from the administration needs to be taken.

3. Freedom to form associations or unions: The State can impose reasonable restrictions on this freedom in the interest of public order, morality and the sovereignty and integrity of India.

People are free to form many kinds of associations - cultural groups, business associations, trade unions. For example, you may have heard that many factories have workers' unions. These unions hold meetings to discuss their problems. They make demands to the officers of the factory. Thus, the union protects the rights of the workers.

4. Freedom to move freely: Throughout the territory of India though reasonable restrictions can be imposed on this right in the interest of the general public. For example, restrictions may be imposed on movement and traveling, so as to control epidemics. Again, in some border areas the government may think that free movement is posing problems for the security of the country and so impose restrictions on it.

- What associations are there in your area?
- Why are workers' unions formed? What problems do they face?

5. Freedom to reside and settle in any part of the territory of India: Which is also subject to reasonable restrictions by the State in the interest of the general public or for the protection of the Scheduled Tribes. Certain safeguards as are envisaged here to protect indigenous and tribal people from exploitation and coercion.

- Why do people want to move and settle in various parts of the country?
- What is the responsibility of the government to workers who are able to find some work in the city but don't have a proper place to live?

6. Freedom to practise any profession or to carry on any occupation, trade or business: On which the State may impose reasonable restrictions in the interest of the general public. Thus, there is no right to carry on a business which is dangerous or immoral. Also, professional or technical qualifications may be prescribed for practising any profession or carrying on any trade.

The constitution also imposes restrictions on these rights. The government restricts these six freedoms in the interest of the independence, sovereignty and integrity of India. In the interest of morality and public order, the government can also impose restrictions. The six freedoms are also automatically suspended or have restrictions imposed on them during a state of emergency. However, the right to life and personal liberty cannot be suspended.

■ Discuss the implications of the statement that although the six freedoms may be suspended the right to life and personal liberty may not be suspended.

7. Right to Life: The Indian Constitution also guarantees the Right to Life and Personal Liberty. This includes:

■ Protection with respect to conviction for offenses is guaranteed in the right to life and personal liberty. No one can be awarded punishment which is more than what the law of the land prescribes at that time.

■ No citizen can be denied his life and liberty except by law. This means that a person's life and personal liberty can only be disputed if that person has committed a crime. However, the right to life does not include the right to die, and hence, suicide or an attempt thereof, is an offense.

- Conduct a debate in the following issues in the context of regulation on freedom of speech:

1. A book is written with an intention to hurt the feeling of a specific caste group.
2. Every film has to get approval from the Censor Board.
3. The court orders that no one can use public microphones during festivals and prayers beyond 11:00 p.m.

- What do you remember about the difference between the role of the police and that of the court (VIII Class)?
- What are the different types of schools you see in your area? Why do you think there are such different types of schools?

■ In 2002, the right to primary education became a part of the right to life. Here the governments are responsible for providing free and compulsory education to all children up to the age of 6 to 14 years. This makes it necessary for the government to arrange for schools and for parents to see to it that their children attend schools regularly. This right has been added because people feel that all children should have the opportunity to study, learn about the world around them, acquire skills to express themselves and make creative contributions to society, and have more opportunities for their future.

■ Rights of a person arrested under ordinary circumstances is laid

down in the right to life and personal liberty. No one can be arrested without being told the grounds for his arrest. If arrested, the person has the right to defend himself by a lawyer of his choice.

Right against Exploitation

Under this Right all forms of “forced labour are prohibited”.

You read in some of the history chapters that some people were forced to do *vetti/ begaar* i.e. to work without any wages. If any landlord or contractor today forces a person to work without any wages or at very low wages, it would be a violation of the fundamental right against exploitation. Such a person can file a case in the court. Similarly, if a person is forced to work as a bonded labourer it would also be a violation.

“Prohibition of employment of children in factories”

The Constitution states, “no child below the age of 14 shall be employed to work in any factory or mines or engaged in any other hazardous employment.”

- Do you think this right has been made available to children in the villages and cities in your area?
 - With the help of the teacher find out the minimum wages in your state.
- Accordingly, laws have been made that prohibit children from making matches, crackers, beedis and carpets, or doing printing and dyeing etc.

Right to Freedom of Religion

All individuals are free to follow their conscience and practise any religion. No one can be prohibited from following his or her religious practices as an individual. This also means that a person can decide to change his or her religion. This right preserves the spirit of secularism in India. For example, one cannot commit a crime like infanticide in the name of religion. Similarly the practice of *Sati* cannot be committed in the name of religious freedom.

According to the Constitution, the government does not have any religion. It should treat all religions are equal, as mentioned earlier. This is what the Preamble means when it says that India is secular.

- How does the practice of Sati violate fundamental rights?
- Can anyone not follow any religion if he/ she wishes?

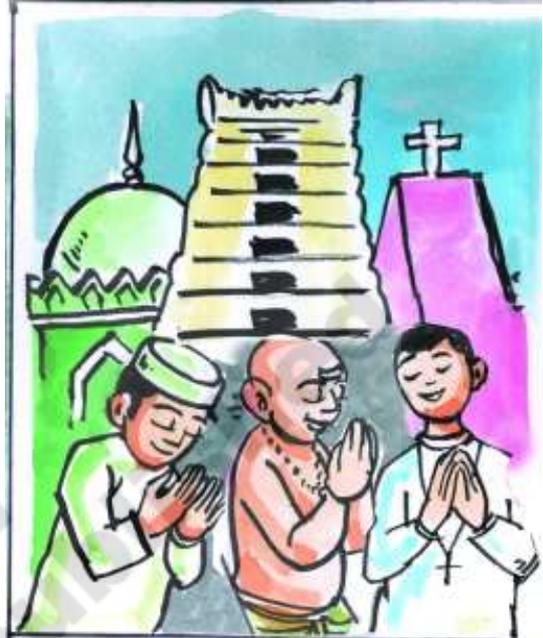


Fig. 21.3: Places of worship and people of different religions

Right to Education and Culture

The Constitution says, “All minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.”

Minority groups are usually thought of, in terms of language and religion. Whether or not someone is a minority depends on where they live. For example Telugu speaking people form a majority in Andhra Pradesh but they would be a minority in West Bengal. Sikhs constitute a majority in Punjab. But they are a minority in Andhra Pradesh, Rajasthan, Haryana etc.

They have the freedom to establish and run institutions in order to protect their culture and language. For example if Kannada speaking people wish to run a Kannada medium school in A.P. in order to preserve their culture and language they cannot be prevented from doing so.

The government also has to recognise and provide grants to such institutions if they fulfill other essential conditions. In the above example, if such a school is affiliated with the A.P. State Board and fulfils the Board’s conditions, then it can receive grants from the state government just like any other aided private school.

Right to Constitutional Remedies

As mentioned earlier these rights are so important that a violation of these rights by the State gives the people the Fundamental Right to approach the High Courts and Supreme Court. When such rights are violated, they can be restored by the courts by giving specific directions or orders. It is the responsibility of the government to protect the people against any violation of their Fundamental Rights. A case can be filed against the government if it fails to do so.

Many times, the poorest and marginalised sections of the society cannot afford to approach the court even when their rights are violated. To make these rights meaningful to everybody the courts under the exercise of judicial review have encouraged the people to file Public Interest Litigation or PIL. That is if the rights of a group of people are being denied, each affected person does not have to file a separate case. Any person (or organisation) can file a case against the government

An Example of a Public Interest Litigation

Suppose the government decides to construct a dam on a river. And suppose there are around 50,000 people whose fields would be flooded if the dam was built. They would lose their land and livelihood. Their way of life would be seriously affected. This is a violation of their fundamental rights to freedom of life, freedom to settle in any part of the country and freedom to pursue any occupation of their liking. In such a situation, a case can be filed in the Supreme Court to protect the Fundamental Rights of these people. One case can be filed on behalf of all 50,000 people.

on behalf of this group of people. This kind of case is called a Public Interest Litigation. It has now expanded to include many other kinds of public interest litigation including environmental issues, transparency and probity of the governments, the treatment of prisoners etc.

Scope of Fundamental Rights

The Fundamental Rights provided in Constitution have been amended from time to time. Moreover, there has been new rights that have been included into, like Right to Education. Rights may be modified through the parliament. Or supreme court could make judgements that would expand the meaning of a particular right. For instance, right to food has thus been expanded into the context of Right to Life.

Other Institutions and Rights

Rights like the idea of democracy, has captured the attention of people across the globe. Rights are often traced to the Magna Carta of England and French Revolution where a declaration of rights of man and of citizens was announced. After the world wars, United Nations was established with an objective to ensure that there are no more major wars in the globe. United Nations assigned this task to

a group of people from 9 different countries around the world who drafted a list of 30 articles. This became the Universal Declaration of Human Rights which was passed by the UN General Assembly in 1948. That is to say the member nations of the UN are all signatories to this and thus under an obligation to uphold these rights. While these do not have the force of the law, violation of these rights will be considered unacceptable by the international community and in many cases invite sanctions by other countries.

Human Rights Commission

The United Nations has been working to protect the basic human rights of people and in this effort they have encouraged their member nations to do the same. In 1993, the Government of India passed an act of legislature to protect human rights. A commission for human rights was set up under this law called the National Human Rights Commission (NHRC). The commission has been given powers of a civil court extendable to the entire country. The Government has also established other institutions to monitor and inquire into situations in which rights are violated. Thus we have different institutions such as the National Commission for Women, National Commission for Protection of Child Rights, National Minority Commission and State Human Rights Commissions.

NHRC is vested with the authority to make an inquiry, suo motu (on its own initiative), or on a petition presented to it by a victim or any person on his / her behalf. It intervenes in any proceeding involving any allegation of violation of human rights pending before a court with the approval of such court. It also makes and reviews the safeguards provided by or under the constitution for the protection of human rights and recommends measures for their effective implementation.

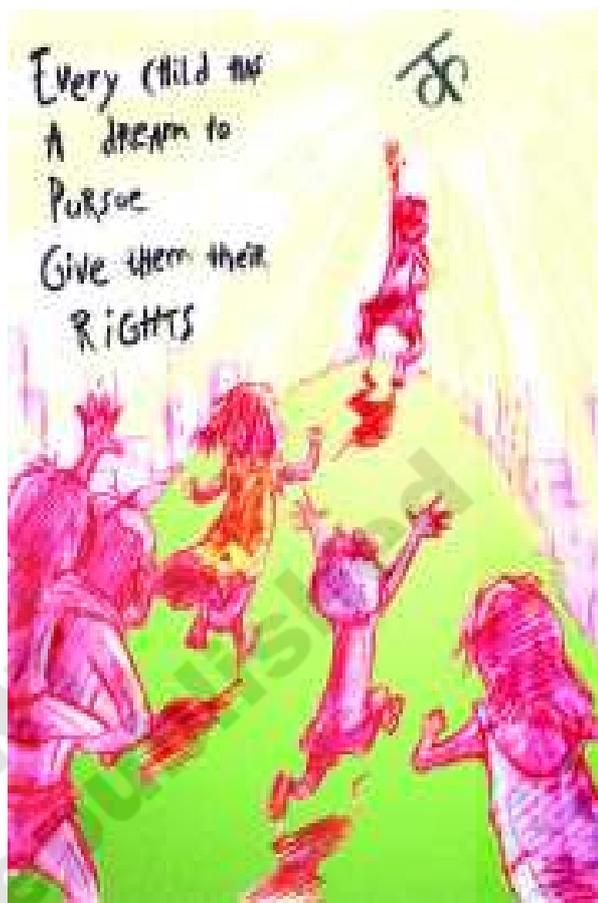


Fig. 21.4: A poster on Child Rights



Fig. 21.5: Logo of Human Rights (United Nations)

At the International level, the UNO has instituted a committee for Human Rights which looks into the violations of the international pacts.

Violation of Human Rights

Police excesses, arbitrary arrests, denial of right to information and corruption, sexual cruelty and rape of women, delay in investigation of crimes, female infanticide, kidnapping for ransom, deplorable conditions of women, children and

- Is there a State Human Rights Commission in our state? Find out about its activities.
- State some instances of the violations of Human Rights.
- Write a petition to the NHRC if you know any instances of human rights violation in your area.

downtrodden people, discriminations against women in the family, cruelty to domestic servants are certain violations of human rights. These violations continue unchecked because people are not aware of their human rights. Protection of human rights is the responsibility of the state. Complaints about violations can be made to national or state commissions.

Fundamental Duties

Just as we have rights, we have some responsibilities too. These responsibilities are towards other people living around us. Unlike Fundamental Rights even a person violates them he or she cannot be taken to court.

“It shall be the duty of every citizen of India

- abide by the Constitution and not insult either the National Anthem or the National Flag.
- to cherish and follow the noble ideals which inspired our national struggle for freedom.
- to maintain the unity and sovereignty of India.
- to defend the country.
- to bring harmony and peace amongst people of different languages and religions, and to refrain from insulting the dignity of women.
- to prevent and improve the natural environment.
- to value and preserve the rich heritage of our composite culture.
- to develop the scientific temper, humanism and the spirit of inquiry and reform.
- to safeguard public property.
- to strive towards excellence in all spheres.
- to educate our children.”

Key words

- | | | |
|-----------------------|-----------------|---------------|
| 1. Fundamental rights | 2. Human Rights | 3. Litigation |
| 4. Titles | 5. Arbitrary | |

Improve your learning

- Which of the following is not an instance of an exercise of a fundamental right?
 - Workers from Bihar go to Punjab to work on the farms
 - Religious minority set up a chain of schools
 - Men and women government employees get the same salary
 - Parents' property is inherited by their children
- Which of the following freedoms is not available to an Indian citizen?
 - Freedom to criticise the government
 - Freedom to participate in armed revolution
 - Freedom to start a movement to change the government
 - Freedom to oppose the central values of the Constitution
- Which of these statements about the relationship between democracy and rights is more valid? Give reasons for your preference.
 - Every country that is a democracy gives rights to its citizens.
 - Every country that gives rights to its citizens is a democracy
 - Giving rights is good, but it is not necessary for a democracy
- Are these restrictions on the right to freedom justified? Give reasons for your answer.
 - Indian citizens need permission to visit some border areas of the country for reasons of security
 - Outsiders are not allowed to buy property in some areas to protect the interest of the local population
 - The government bans the publication of a book that can go against the ruling party in the next elections
- Look through this chapter and the previous one and make a list of the six Fundamental Rights in the Constitution.
- Are the Fundamental Rights being violated in each of the following cases? If so, which Fundamental Right or Rights? Discuss with your classmates.

- a. Suppose a person is kept in a police station for 4 days without being told which law was broken?
 - b. Suppose your neighbour tries to claim some of your land as her own.
 - c. Suppose your parents do not allow you to go to school. They make you take up a job in a match factory instead, because they cannot afford to feed you properly.
 - d. Suppose your brother refuses to give you the land that you have inherited from your father.
7. Suppose you are an advocate. How would you argue the case for a group of people who come to you with the following request:
- “The river in our area is getting very polluted by the factories upstream. We get our drinking water from the river. People in our villages keep falling ill because of the polluted water. We have complained to the government but there has been no action from their side. This is surely a violation of our Fundamental Rights.”
8. Read the paragraph under the heading ‘Abolition of Title’ and answer the following question.

The Awards can't be used by the recipient as a title. Why?

Project

Invite a senior advocate into your classroom and collect the following information by conducting an interview.

- violation of fundamental rights and its consequences
- violation of children rights
- ways of struggle for rights in democracy
- any other related

- Have you ever seen child marriages?
- Have you ever observed harassment and violence made to women and girls?
- Have you ever observed the various types of domestic violence, threatening women in day to day life?
- What shall we do to stop such violence caused to girls and women?

Girls and women are facing teasing and violence worldwide. It affects their mental and physical health. Most of the women can't dare to move freely. Similarly girls are hesitating to go to schools. Teasing with words, torturing, insulting are common incidents around us. We also watch such news in T.Vs and newspapers. Such incidents are the evidence for violation of child and women rights. Even though governments made many Laws to control the violence, people are not aware of them. Even victims don't know where and how to get protection and help.

Girls and women should be aware of the Laws, meant for their protection. Then only they can protect themselves from various types of violence and abuse. Is there any network or mechanism for girls and women to express their worries and through which they can maintain secrecy? What are the various forums..... which girls and women seek protection. Let us discuss these in this chapter.

Violation of children and women rights is continuing in our society in various forms. It may be in family or working place. How far such violation of rights continue? There is a need to correct the attitude of the society which adversely affect the overall development of women and children. Proper implementation of the laws, made by the government provide free and confident life to the children and women.

In 1989, the UNO proposed international children charter on which 191 countries have signed. Our country is also one of them. These rights relate to everybody without discrimination. Let us look at some of these important rights.

Children Rights

1. Below 18 years age are all children without gender discrimination.
2. Protection from government for children rights.
3. Right to live.
4. Right to live with parents as far as possible.
5. Right to gain knowledge and get awareness about the world through media like radio, newspapers, T.V etc.
6. Right to protection from violence and harmful incidents.

7. Right to get special care to live and for development in case of disabled children.
8. Right to have good health and get medical care.
9. Right to use mother tongue, follow their religion and tradition.
10. Right to play.
11. Right to avoid the harm for children from getting education and health.
12. Right to get protection from using harmful medicines also manufacturing and purchasing.
13. Right to get help when the children are neglected and being suffered.

Children, elders and everybody should be aware of the UNO Children Rights Charter. Government also inform people about this.

Prohibition of Child Marriage Act, 2006

Child means a person who, if a male, has not completed 21 years of age, and if a female, has not completed 18 years of age.

It is treated as child marriage if the contract between any two people of which either one or both parties is a child.



If a male person above 21 years contracts a child marriage shall be punishable for two years imprisonment and/ or a fine which may extend to Rs. 1 lakh. The same punishment will be given to person who performs, conducts or directs a Child Marriage under Child Marriage Act., 2006. If the

marriage is voided the girl should be paid maintenance by the male up to the age of her 18th year or upto the time she gets married. If the male is minor his parents should provide such maintenance. The government will take care of the children whose marriage is cancelled. The dowry and gifts are to be returned after the cancellation of the marriage.

Disadvantages of child marriage:

- Underage pregnancy.
- Provision for trafficking and sale of girls.
- Pushing the unmatured into family system.
- Increased abortions, premature births which results not only infant mortality but also the death of mothers.
- Handicapped child births or dead child births.
- Mental as well as physical health problems.
- Obstacle for study.
- Hurdle for physical growth (especially regarding female).
- Become child labourers for family maintenance.

Prevention of a Child Marriage – A Case Study

Raviralla Kavitha, is a girl of twelve years. Her father is Nancharaiah. They belong to Rangareddy villagae of Mahaboobnagar district. Kavitha is studying in class VII in an Upper Primary School. As her marriage is fixed, she is not attending the school. This was informed to Mamidipudi Venkata Rangaiah Foundation. The volunteers of MVF went to her home along with the members of Child Marriages Prevention Samithi and discussed about the child marriage in presence of the village elders.

Later on, the MVF volunteers went to the local priest. He repeated that when the parents of Kavitha came to him for the request of fixing the date, he demanded for the Date of Birth certificate or ration card, they did not show any of them and they could not come back to him. The volunteers came to know in the enquiry that the bridegroom Damerla China Satyam, age 23, S/o Ramaiah didn't complete the primary education also.

After two days, when the MVF volunteers went to Kavitha's home, they were busy with marriage arrangements. They explained them not to perform marriage at the early age which is meant for study and she was still a minor. Kavitha's father said, "you say many things but we have another daughter. How can I arrange the marriages?". As they were not convinced, the volunteers went to Thasildar, Sub Inspector of Police, CDPO and informed the same. They enquired about this in presence of villagers but the parents said in a rude way, "who are you to stop our daughter's marriage? At that time a few people belong to the bridegroom came there and said," we have finished all the arrangements. Why do you stop now? "S.I. Explained them," Celebrating Child Marriage's is offence. One who encourages the child marriage is also a crime. After counseling to the parents of bride and bridegroom, they agreed to cancel the Child Marriage and sending her to school regularly.

District Collector at the district level, Revenue Divisional Officer at division level, Tehsildar or ICDS Officer at mandal level and Gram Panchayat Secretary at village level are the Incharges in stopping the child marriages. Anybody can complain or intimate to the above officers to stop the child marriages. Sometimes the court may initiate and file sue-motu (on its own initiative) when it has reliable information and punish the concerned.

- Sometimes marriages are performed for the under aged i.e. less than 15 years without their consent. How do we stop such marriages? Who will help us?

Do You Know?

Seek assistance in case of any harassment and domestic violence using toll free number **Bhumika Help Line 1800 425 2908** and stop child marriages. Friends, relatives, neighbours, teachers can inform to the village secretary and Tehsildar to stop child marriages.

The Immoral Trafficking (prevention) Act 1956 and amendment 2006

Girls and women are being lured in the name of providing jobs, bright future, offering roles in cinema etc., and take them to towns and cities and sell them for prostitution. Even they beat and, cause physical violence to make them obey. Certain time they remove body parts.

Trafficking and selling of them for prostitution or encouraging them to enter in to prostitution is a punishable crime. Though they come on their will and interest is also treated a crime.

Different forms of trafficking:

- **Sexual assault**
 - a. Forced prostitution
 - b. Social and religious prostitution (Devadasi, Jogini, Mathangi etc.)
 - c. Sexual assault in tourism
 - d. Reading rustic writings and watching obscene pictures
- **Activities against the law**
 - a. It is a crime to make the trafficking children involve in the begging for money and beating them to obey. Certain times they make them physically handicapped by removing their body parts and make them as beggars.
 - b. Removing body parts and doing business.
 - c. Selling narcotics with the trafficked children.
- **Labourers**
 - a. *Vetti*: Taking work without making proper payments, not providing nutritious food, clothes and even not treat them as human beings.
 - b. Domestic labour: Washing clothes, cleaning the houses and utensils without proper wages, entrusting work in neighbours' houses.
 - c. Agriculture Labour : Involving in the agriculture work and exploiting them for more physical work.
 - d. Construction work : Labour involved in construction of buildings, roads etc., with nominal payments and providing them with substandard food.
- **Sadistic pleasure**
 - a. Tying up the children on camels and make them run for entertainment
 - b. Marriages and adoption without their consent

Generally people bear injustice and violence and never inform to proper authority or take the help of law to be away from violence and sufferings. In such cases the sufferers must inform to the local police station or NGO for protection and care.

Forcible prostitution is an offence. Such prostitutes are called sex workers. There are so many Acts for their protection in vogue. The police have no power to

beat or punish them in the name of enquiry. Along with the sex workers, the brothel house keepers are also liable to be punished with 2 to 3 years of imprisonment and penalty up to Rs. 10,000/-. Using a house or a room or taking or giving a room for rent for the purpose of prostitution is also an offence.

If anyone participates in sexual intercourse other than the spouse is also punishable under the law.

After protecting the victims they should be presented before the Magistrate after the required medical treatment. An enquiry is to be taken up by a woman police officer or any Non Government Organisation (NGO) and action for the protection. If the victims are children they will be sent to Balasadan. The rescued persons shall be given full protection and care, respect by the concerned government. If the rescued persons are children they may be provided accommodation in child protection home where their education, food and health shall be taken care of.

The punishment is 7 years rigorous imprisonment to life along with penalty for immoral trafficking. Without warrant the police officer shall investigate the case and collect the necessary details to protect the trafficked children and punish the accused.

The Dowry Prohibition Act, 1961

If any person gives or takes or abets dowry he/she shall be punishable with imprisonment for a term which shall not be less than five years, and with the fine which shall not be less than 15 thousand rupees or the amount of the value of such dowry whichever is more.

It is observed that after the marriage the bride is teased, scolded, abused, beaten even sometimes cause for death or makes her commit suicide. All these offences cover in this Act. Parents can present offerings, articles in the marriage, but these offerings must be as per the law.

1. Enlisting the offerings
2. Offerings can't be demanded
3. The offerings that are being provided must be as per one's cultural norms and traditions. The value of offerings shall not be over and above of the parents' economic status and never become a burden to the family.



- Have you ever seen the women who are tortured for dowry in your locality? How are they being tortured? What sort of suggestions do you make to prevent? Who will held responsible?

When there is such violence, the victim herself or her father/ mother/ brother/ relatives can complain in the local police station.

The Protection of Women from Domestic Violence

Our constitution provides the right to live in a dignified manner to all the citizens. Leading a dignified life means that the women should not be abused, insulted or humiliated. Such situations are to be created for the women to enjoy their rights by giving proper respect for their work. The equal rights are not being enjoyed by the women. And the activities, behaviour which damage their value and self respect starts with family. Such violent acts happening in the family to suppress the women and their dignity. These happenings are against their development.

There are differences or changes in the nature and range of violence, the women subjected to and it is a major challenge for the development of women across the world. The domestic violence is not alone pertaining to individual or family and it has certain politics behind it according to women movements being carried out in the last twenty years. Certain special Acts have been formulated based on women protests and movements. However, these Acts are not being implemented in its proper spirit, proper sensitivity and awareness should be created with effective monitoring towards women issues among the machinery of implementation such as police, and other assisting agencies.

The National and International governments have taken up certain declarations and resolutions in order to stop violence against women, though the family and

- Domestic violence takes place now and then and gradually it becomes a bad habit. More violence generates from violence. How do we stop them? Who will help?

community supporting the violence. The declarations also clear the actions proposed to be taken up by the governments towards development of women. The government of India is also one of the countries accepted and became signatory to the declaration and resolved to abide by it.

Important Resolutions:

- “Government shall take appropriate measures, to do away with the discriminations against in the matters of marriages and family relations.”
- “The men and women shall possess equal rights in the matters of family property and its management.”

The Beijing declaration and programme of action focus on the following things:

- “Violence against women is one of the major causes for the decreasing status of women in the community when compared to men. Mostly women and girls undergo the violence in the family and in home environment and these things never come out. It is very difficult to identify the domestic violence and address it.”

- “The government has to take steps in the proper identification of violence, protecting the victims and punishing the culprits.”
- “Making all legal and judicial systems and mechanisms accessible to the women suffering with domestic violence. The information pertaining to protective measures and taking help of the law must be provided to everyone.”

Lakhs of women and children are being injured during domestic violence and undergo treatment but majority doesn't reveal about it. Though this is spread across all nations, races, religions and still it is considered as something confined to family affairs happening within the four walls.

Domestic Violence - Misconceptions and Realities:

Misconception: Parents punishing their children now and then is not a major issue to be considered.

Reality: Domestic Violence starts slowly and it becomes a routine, if nobody opposes it. The Victims certain times are hospitalised for treatment and even lose their life and it adversely affects their dignity and self respect.

Misconception: Addiction to the drinking is the major cause for violence.

Reality: The alcoholism for domestic violence is only an assumption but the statistics reveals that 40% of the men who beats their wives are not addicted to alcoholism

Misconception: Women shall bear the violence for the sake of children.

Reality: Violence leads to more and more violence. Children grow in the violent atmosphere will become more violent in future.

Misconception: There is no way to get out of Domestic violence.

Reality: The violence free environment is the birth right of every woman. The Women protecting Acts and laws are available and one should take their support.

Forms of Domestic Violence:

- Sexual abuse (forcible sexual intercourse, watching obscene films)
- Physical abuse (behaviour caused to bodily pain or harm, beating, torturing)
- Verbal and emotional abuse (humiliation, name calling or ridicule not speaking to them, ignoring.)
- Mental abuse (threaten to harm, not to send the children for study, stopping from jobs, force to marry whom she doesn't like)
- Economic abuse (deprivation of economic or financial resources, use the women wealth, sell their property)

Whom to complain:

The victims of domestic violence should complain to the police officer or judicial authority like 1st class Metropolitan Magistrate individually/ over phone/ e-mail. This type of complaints can be filed when the domestic violence took place or taking place or will be taken place. If the victim is wounded she has to be sent for medical treatment and then the report is to be sent to the police station and to the Magistrate.

Sexual Assault and Torturing

Recently central government has appointed Justice J.S. Verma Committee asking suggestions to prevent sexual assault and abuse. Based on the suggestions Hon. President of India issued an ordinance on 2nd February, 2013. Some important features of the ordinance. are ;

- Minimum 20 years of imprisonment.
- Recruitment of women police to address the complaints from the victims.
- It is not necessary for the victim to attend before the police officers individually.
- There will be no punishment if the accused dies in struggle at the time of attack with acid on women.
- There is a scope to shoot video at the time of complaining and trial on the request of the victims.

Lok Adalat

Lok Adalat means peoples' court. All are equal before law. The Article 39-A of the Constitution of India, contains various provisions for settlement of disputes through Lok Adalat. It is an Act to constitute legal services authorities to provide free and competent legal services to the weaker sections of the society. It is to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities. And to organize Lok Adalats to secure that the operation of the legal system promotes justice on a basis of equal opportunity.

In addition to above, an Act was formulated which is called "Act of Judicial Services Authority. This is a central law. The State government and high court jointly formulated certain principles as per this Act.

Who are eligible for judicial assistance?

- Citizens belong to scheduled castes and scheduled tribes.
- Victims of immoral human trafficking, beggars, women, children, mentally imbalanced and physically challenged.
- Victims of natural disasters, agricultural and industrial labourers and victims of Domestic Violence and Casteenminty
- Citizens earning annual income less than Rs. 50,000.

One should apply for this assistance to Judicial Service Authority in District Court or High Court, as the address given below.

1. Secretary

District Judicial Services Authority
District Court Premises

2. Member Secretary

State Judicial Services Authority
High Court Premises, Hyd. 500 066

Methods of Judicial Assistance

- Judicial advice is given free of cost by the advocate.
- After verification of the cases and if it is found necessary, the advocates may be appointed on behalf of the complaint and take up the cases in the court.
- To bear the expenditures of court and court fee.
- The xerox copies of the judgment will be given at free of cost to those who sought judicial assistance.

It is necessary to have a thorough understanding and awareness for the better implementation of the acts. Then only the purpose and provision of human rights will be fulfilled and everybody leads respectable and dignified life.

Key words

1. Dowry
2. Domestic Violence
3. Lok Adalat
4. Sexual Assault
5. Forced Prostitution

Improve your learning

1. What are the disadvantages of child marriages?
2. Why has the domestic violence become a common practice? Find out the reasons.
3. You have read about various problems of girls and women. Have you noticed any sort of these problems in your village/ town? Specify them and what is to be done?
4. Many acts are made by the government. What do you suggest for better implementation?
5. Write an essay on general problems, the women facing?
6. Imagine that you are Tehsildar. How would you prevent child marriages?

Project

What facilities does the government provide to the poor for seeking judicial justice? Consult a lawyer and get the information?

Disaster Management

Human Induced Disaster

How natural hazards are natural? Have you ever tried to analyse this question? Let us take an example of the floods in Mumbai. What led to the huge loss of life and property? Is it only heavy rains which caused this massive destruction? No, there are various other reasons that led to this large destruction. Let us list some of them.

- a. Unplanned growth of cities
- b. No proper drainage facility
- c. Increased growth of population etc.

If we look at the causes, all of them are human induced and if we take care of them many such disasters can be stopped. So we can say that natural hazards are not always natural, but human beings have a major role to play.

The disasters that are caused because of human negligence or deliberately by an individual or a group can be termed as Human-made. These disasters cost the most in terms of human suffering, loss of life and long term damage to a country's economy and productive capacity.

Let us now look at different human made disasters briefly.

Accident related Disasters

Road, rail and air accidents are some of the disasters that one faces every day. The rapid development and expansion of the road network for better connectivity and the increase in number of motor vehicles have led to a substantial rise in levels of both passenger and freight movement. The number of road accidents and fatalities has been growing in recent years.

In India about eighty thousand people are killed in road crashes every year which is thirteen percent of the total fatality all over the world. More than half of the people killed in traffic crashes are young people within the age group of 15-44 years who are often the bread winners of the family. In most of the cases crashes occur either due to carelessness, restlessness, overspeed, violation of traffic rules, drunken driving, poor maintenance of the vehicle, bad weather conditions etc. All these add to the rising number of accidents and road fatalities. It has been estimated that in the year 2000 more than 3 percent of the Gross Domestic Product (GDP) was lost due to accidents. Hence, road safety education is as essential as any other basic skills of survival. The Road Safety Week is observed in January, every year throughout the country. The theme of the Road Safety Week in 2006 was 'Road Safety and no Accident'.

Here are some do's and don'ts for you while you are walking to school or going by bus.

No matter how old you are, it is important to know the traffic rules which are for your safety and the safety of your near and dear ones.

Do's	Don'ts
Drive if you have a legal license and have attained the age of 18.	Don't be impatient on the road and don't run on the road.
Always walk on the footpath. If no proper footpath, walk on the extreme right hand side of the road.	Never cross the road at a corner/curve as the motorist while taking the turn will not be able to see you in time.
Cross only at Zebra crossing and at traffic signals. Where such facilities are not available look for a safe place to cross and look on either side before crossing the road.	Don't run to catch the bus/ rickshaw as you might slip and fall.
Know the road signals and honour them.	Don't board a bus other than the one decided by the school.
Be at the bus stop 5 minutes before, leave home well in time. Board the bus when it has come to a halt and without rushing or pushing follow the queue.	Don't shout or make noises in the bus as it distracts the bus driver and diverts the attention.
Hold on to the railing of the bus, if at all you have to travel standing in the moving bus.	Don't sit or stand on the footboard of the bus.
If you are riding a two wheeler then do wear helmets so that your head is protected.	Don't put any part of your body outside a moving or stationary vehicle.
When exiting the bus, be careful that clothing and book bags with straps don't get caught in the handrail or door. Cross the vehicles from the front only, not from back.	If you drop something near or under the bus, tell the bus driver. Never try to pick it up. The driver may not see you and begin to drive away.

The following people should not be driving vehicles:

- Having consumed alcohol.
- Have been taking any medicine or drug that affects their responses.
- Are tired, as tiredness affects the driving skills and reaction time.
- Are sick or injured.
- Are angry or upset.

You as a student or a volunteer can do wonders to reduce the number of deaths by creating more awareness on road safety. In case you see a victim, you may call for 108. You can seek the help of the policemen or the local people and ask for medical help if necessary.

Rail Accidents

Railway transportation appeared at earlier times to be safe due to slower speeds, shorter trips and lower density traffic.

With the largest network in the world, the number of railway accidents has increased in India. The most common type of rail accidents are derailment which takes place due to lack of proper maintenance, human error or sabotage. This causes huge losses to life and inflicts injuries and disabilities to many more. The transportation of various highly inflammable products like coal, oil etc. also leads to accidents.

The 150 year old shabby Ulta Pool bridge in Bhagalpur district of Bihar collapsed apparently due to poor maintenance and the Howrah-Jamalpur Superfast passenger train passing below the bridge killing at least 35 people on December 1st 2006.

We hear of such horrifying stories every now and then. Let us try to identify some safety measures that could be taken up to reduce the number of such accidents.



Fig. 23.1: Rail accidents.

Do's

- At railway crossings pay attention to signal and the swing barrier.
- In case of unmanned crossing, get down the vehicle and look at both the sides of the track before crossing the track.

Don'ts

- Don't get underneath the signal barriers and cross them.
- Don't stop the train on a bridge or tunnel where evacuation is not possible.
- Don't carry flammable materials.
- Don't stand or lean out of the door in a moving train.
- Don't put any part of your body outside a moving or stationary train.
- Don't smoke in the train. If you see anyone doing so you can request them not to do it.
- Don't cross the railway tracks. Use the foot bridge to change platforms.
- Don't touch objects which are suspicious. Never play on the tracks or in the railroad yards. Railroad cars can move suddenly and unexpectedly.
- Never throw anything at the train. Severe injuries and even deaths have occurred from objects thrown at trains.

Air Accidents

Air India Flight 182 Kanishka was blown up mid-flight on 23 June 1985 by a bomb. The flight was on the first leg on its Montreal-London-Delhi-Bombay (Mumbai) flight when it exploded off the coast of Ireland. The plane crashed into the Atlantic Ocean. All 307 passengers and 22 crew on board died.

Across the world including India, air accidents have increased. Many factors govern the safety of the passengers in the aircraft like increase in the number of aircrafts, technical problems, fire, landing and take off condition, the environment that the airline operates in (mountainous terrains or frequent storms), factors like airport security in cases of hijackings, bomb attacks etc.



Fig. 23.2: Air Accident.

Some safety measures that can be taken up are given below.

On boarding the aircraft there are some things that you need to remember:

- Pay attention to the flight crew safety demonstration.
- Carefully read the safety briefing card, that is there in the seat pocket.
- Know where the nearest safety emergency exit is and know how to open in case of emergency.
- Always keep your seat belt fastened when you are in seat.

If in case you are involved in an air accident, you should remember the following things:

- Stay calm. Listen to the crew members and do what they say. The cabin crew's most important job is to help you.
- Before you try to open any emergency exit yourself, look outside the window. If you see a fire outside the door, don't open it as flames may spread into the cabin. Try to use the alternate exit route.
- Remember smoke rises. So, try to stay down if there is smoke in the cabin. Follow the track of emergency lights embedded on the floor, they lead to an exit. If you have a cloth, put it over your nose and mouth.

Fire

The 2004 fire in a school in Kumbakonam, Tamilnadu sparked off debates and arguments on the safety of schools in the country. 93 innocent lives were charred to death. The main causes of this fire were lack of awareness amongst children and



Fig. 23.3: Fire.

teachers as to what to do in case of a fire, lack of preparedness, kitchen close to the classroom etc. However, incidents like these are not new.

Such incidents show huge loss to life and property because of human negligence or lack of awareness.

Fire is a phenomenon of combustion manifested in intense heat and light in the form of a glow or flames. Around 30,000 precious lives are lost because of fire related incident every year. Heat, fuel, and oxygen/ are the three

ingredients which cause a fire. By cutting the supply of any one we can control fire.

Do's

- If you see smoke or flames, raise the alarm.
- Get out of the building as soon as possible. Cover yourself if you can. Use steps instead lift in case of fire. Keep the escape routes clear in the corridors.
- Find a phone and call 101. Ask for the fire brigade, and then give your address slowly and clearly to reach soon.
- If there's smoke, crawl along the floor, as the air is cleanest there. Hot air rises up. If your escape route is blocked, go into a room with a window, put things round the door to stop smoke getting in, open the outside window and call for help.
- A closed door slows down the spread of a fire. While evacuating it is necessary that we close the doors.
- Switch off all the electrical appliances. The best thing one could do is to turn off the main switchboard.
- Check for worn or tape up cables or leads. These are dangerous and you should replace them. In case the plug points are at a very low level it is necessary that they are taped especially in the primary section of the school as the children might put their fingers inside which might lead to an accident.
- Wherever you are watch out for damaged wiring in the school. In case there are walls that soak or wet then the walls should be immediately repaired and the wires must be replaced.

Don'ts

- Don't go back into the building - not for toys or even pets. Fire fighters can search the house much more quickly than you can.
- Never hide in a cupboard or under a bed. You need to raise the alarm and get out.
- The cables shouldn't be put under the carpets or mats where they can become worn out. This is mainly seen in the administrative unit of the school.
- Lights shouldn't be positioned near the curtains and other materials that could burn easily.

Activity

From the nearest fire station, find out what are the other simple Do's and Don'ts that you can follow and awareness to reduce fire accidents.

The Threat of Terrorism

Mahatma Gandhi preached *ahimsa* or non-violence and truth as the tools for peaceful resolution of issues between people, communities or countries. Over the years, as science and technology progressed, so did man's inherent greed for power and wealth, along with increased hostility between various groups of people in the world. Contrary to the hope of the integration of population across the globe into a 'world community' in harmony with each other, which was expected as a result of development, war and internal conflicts have plagued the world, causing immense suffering to vast numbers of people.

Terrorism has become a common in certain areas of the world, including parts of India. In these areas, children live in constant fear of attacks and violence. Often they do not attend formal schools and don't lead normal lives.



Fig. 23.4: Terrorist attack on Taj Hotel, Mumbai.

In case terror strikes in your area, here are some things that you need to do.

- Remain calm and relaxed and be patient.
- Follow the advice of local emergency officials.
- Listen to your radio or television for news and instructions.



Fig. 23.5: Bomb blast at Dilsukhnagar (Hyderabad)-2013

- If the disaster occurs near you, check for injuries. Give first aid and get help for seriously injured people.
- Noticing any unidentified briefcases, bags, cycles, tiffin boxes and inform police. Be away from those things.
- Shut off any other damaged utilities.
- Confine or secure your pets.
- Call your family contact. Do not use the telephone again unless it is a life-threatening emergency.
- Check on your neighbors, especially those who are elderly or disabled.

Activity

Identify recent terrorist acts that have taken place in India, and discuss the possible effects of these acts on children.

Be alert, Be vigilant and Be safe...

1. Inform police if you see any unowned objects like bags, suitcase etc. lying in public place or in a public transport as it could contain explosive device.
2. Call police Control Room on Telephone No. 100. Every citizen has the right to call up.
3. After informing the police try to keep a watch on the suspected object and caution others to keep away from it.
4. Be alert of any suspicious behavior, parked vehicle.

For Parents

- First and most important, adults need to focus on the children in their lives in the aftermath of the horrific events.
- Helping children to separate fact from fiction is also important.
- Adults should try to discuss known facts with children, and help avoid speculation or exaggeration.

Citizen safety is the concern of all. Different measures are adopted by various agencies to create awareness on safety. Police has issued some posters that can help us fight terrorism and help us in leading a safe life. Read them carefully and try to follow the tips and guidelines in your life.

Key words

1. World community
2. Terrorism

Improve your learning

1. Explain how a natural hazard becomes a disaster?
2. What is Terrorism? What are the motives of terrorists?
3. What safety measures should be followed to avoid fire accidents?
4. What are the main causes to road accidents? How can we reduce the road accidents?
5. How can we protect from terrorist attacks?
6. Identify the causes of rail accidents?
7. List out at least three risk inducing factors in your home, school or village?

Project

1. Collect information from newspapers and magazines about the human induced disaster that has taken place in the past few years in your state. Find out, what measures are being taken in your area to reduce such risks in future.
2. List the various losses incurred due to terrorism.

Undoubtedly innovation of wheel created drastic change in transportation of goods as well as people. Due to increase of population, industrialisation, urbanisation and globalisation, there was a heavy increase of vehicular traffic. So systematic regulation is required to ensure free flow of traffic. Regulation is nothing but to ensure that every road user follow traffic rules. It is the responsibility of every end user of the road to follow traffic rules.

What is traffic?

Movement of any object from one place to another is traffic like wire movement of any vehicle from one place to another place on the road is road traffic.

What is Traffic Education?

Traffic Education is the education which describes the traffic rules and regulations in a clear and simple way. Have you ever seen an accident on the road? If so, how did they get hurt? Think and say, why had the accident happened?

ACCIDENT VICTIMS - AGE

Age	Cases	Age	Cases
00-05	24	50-55	207
05-10	58	55-60	138
10-15	40	60-65	113
15-20	152	65-70	57
20-25	345	70-75	49
25-30	380	75-80	13
30-35	254	80-85	12
35-40	294	85-90	0
40-45	226	90-95	0
45-50	215	95-100	0

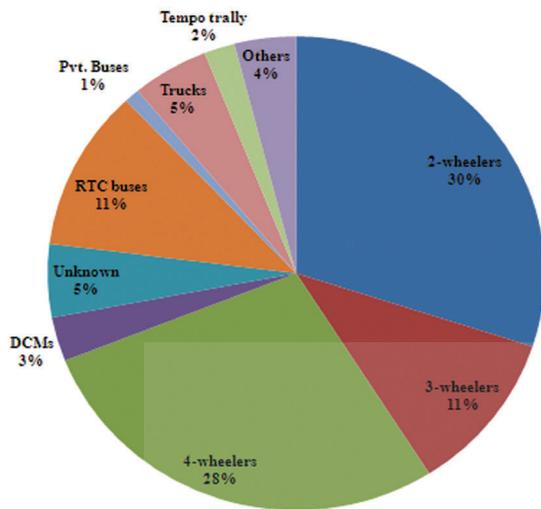
- In which group do you find more cases? Can you say?
- How many cases are there in the age group of both 20–25 and 25–30?

Need and significance of Traffic Education

As young people become more independent, they are exposed to increase risks. Especially teenagers are an important group of road users. Many are unaware that road incidents are the biggest cause for serious accidents and deaths. It is necessary to teach all the road safety measures clearly to avoid accidents.

Hyderabad City

Accidents: Accused vehicles



Total accidents - 2577

Accidents figures for the year 2012.

- Discuss the data relating to the accidents-accused vehicles in your classroom?
- Which type of vehicles are accused of more accidents? Can say why?
- What is Traffic Rules and regulations? Discuss in your class room.

Traffic Chaos

You have to go to school in the morning. If you are late, you may lose classes. You are struck in a traffic jam. What will you do?

Students, employees, labourers, teachers, doctors and all are affected by traffic jams. Foot paths (Side walks) are considered a boon for pedestrians. Sometimes motorists drive on these side walks.

Stray animals, fruit and vegetables sellers, private vehicles like cars, autorickshaws are parking at No Parking Zones are the main causes for traffic jams. As there is an increase in population and use of automobiles there has been rapid increase in the volume of traffic on roads. To avoid the accidents, one must know the prescribed rules and regulations.

Necessity of Driving License

No person shall drive a Motor Vehicle unless he/ she holds the driving license.

Types of Driving Licenses

1. Learner's License : This is a temporary license valid up to 6 months issued to learn driving motor vehicle.

2. Permanent License : One becomes eligible for permanent license after one month from the date of issuing the learner's license.

Documents required for Learner's License

- Residence Proof (attested copy of the following)
Ration Card/ Electricity Bill/ Tax Receipts/ Life Insurance policy/ Voter ID Card/ Passport/ Adhar Card.
- Age Proof attested copies of the following
School Certificate/ Passport/ Birth Certificate/ Adhar Card/ PAN Card of Income Tax.

Some Important provisions of Law

- It is an offence to drive a vehicle without driving license.

- Age limit for motor vehicle above 50 CC is 18 years.
- Age limit for transport vehicles is 25 years.

Forms to be submitted: Form 1, 1A, 2 and 3 are to be submitted with prescribed details and passport photographs. After verification of the above documents a learner's test and colour blindness test will be conducted. A learning license is issued to the applicant who qualifies in the prescribed tests.

Permanent license: Permanent license will be issued only after having a valid learner's license. One should apply for the permanent license after 30 days but within 180 days from the date of issue of the learner's license. One more important thing is that one should be conversant about the traffic rules and regulations.

- Why it is compulsory to have a driving license?

Driving after a drink – Drunken Drive

Driving after a drink: Twenty eight year old Mukhesh used to have a party buff and likes to go out with his friends every weekend. But of late he is worried about returning home after the party. As the very sight of the traffic police at the street corners sends jitters down his spine. This is not the case of just Mukhesh but many liquor consumers are now thinking twice before going to a party.

How breath analyser works : When a person drinks alcohol it is absorbed in to the blood and is circulated through out the body. As this blood reaches the lungs, the air we exhale carries traces of alcohol which is measured by the gadget. In a way the exhaled air would contain alcohol traces along with Carbon-di-oxide. These machines can pickup even the slightest traces of alcohol. Police Officer can not delete the record in breath analyser even though he wants to help the victim.



Fig. 24.1 What are the policemen doing?

Punishment for drink driving

- Enable the officials to seize the vehicle of the drunken.
- Driver to attend court and pay the penalty imposed.

Cancellation of driving licenses

- The Regional Transport Authority can disqualify persons from holding driving license or revoke the same if the person:
 - a) Is a habitual drunkard.

- b) Is an addict to any narcotic drug
- c) Is using a vehicle in the commission of cognizable offence
- d) Is driving dangerously
- e) Is using the vehicle without registration
- f) Is not giving any information required to the police
- g) Is not shifting the victim of the accident in which his or her vehicle is involved to the nearest hospital
- h) Does not produce the following certificates on demand by police
 - Certificate of Insurance, - Certificate of Registration
 - Driving License - Pollution Certificate

Traffic Signs

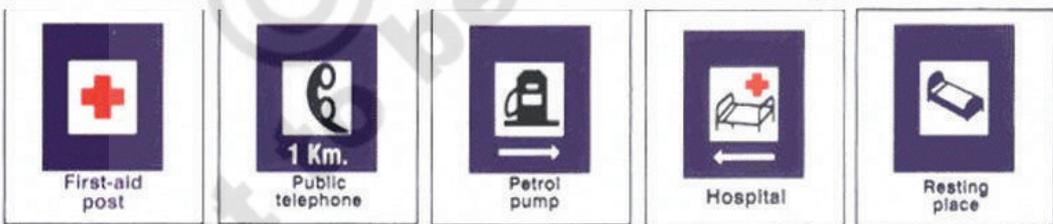
1. Mandatory Signs 2. Information signs 3. Cautionary signs

MANDATORY SIGNS- Red circle instructs what should not be done.



Straight Prohibited or no entry One way signs-vehicles prohibited in one direction Vehicles prohibited in both direction All vehicles prohibited

INFORMATION SIGNS - Signs in the Blue rectangle informs.



First aid post Public telephone Petrol pump Hospital Resting place

CAUTIONARY SIGNS - Signs in the Triangle is for cautions.



Right hand curve Left hand curve Right hair pin bend Left hair pin bend Right reverse bend

A few signs in each type are given above. With the help of your teacher collect the remaining signs from RTA office/ Traffic Police and present in the classroom.

Advices to Drivers

- Stick to the left line and leave the right lane to faster traffic.
- Never over take on the left.
- Wear a helmet for safe journey.
- Use only less Carbon monoxide emission vehicles.
- Do not use horn unnecessarily.
- Heavy vehicle users should always use seat belts.
- Do not jump traffic signals.
- Keep your vehicle in good condition.

Kumari is a student, completed Intermediate with 95% marks. Her father wanted to give her a two wheeler as a gift. They went to local RTA office to get the information regarding registration of vehicle and driving license. As advised by the authorities her father admitted her in a motor driving school. By providing necessary documents which we previously discussed, she got temporary license first and then permanent license. The RTA officer explained her father about how to get the vehicle temporarily registered and then permanently registered.

Necessity for Registration

No person shall drive any motor vehicle unless it is registered.

How registration is made

Temporary Registration: The following documents are necessary for registration.

1. Copy of sales certificate
2. Copy of road worthiness certificate
3. Copy of valid insurance certificate
4. Pollution under control certificate
5. Copy of address proof

Permanent Registration: An application for registration of a motor vehicle shall be made to the registering authority within a period of one month by producing the certificates which are submitted at the time of temporary registration.

Road Marking Signs

Road surface markings are used on paved roads to provide guidance and information to drivers and pedestrians. Uniformity of the markings is an important factor in minimizing confusion and uncertainty.

With the help of your teacher collect the road surface markings from RTA/ Traffic police and discuss the uses of various markings in the classroom.

Division of roads

1. Footpath : It is laid on either side of the road for the use of pedestrians. It is built with of about 2 meters

2. Road divider : The road is divided into two halves with cement slabs

3. Zebra Crossings : Zebra Crossing is the place where the pedestrians cross the road these are laid at places where traffic is heavy

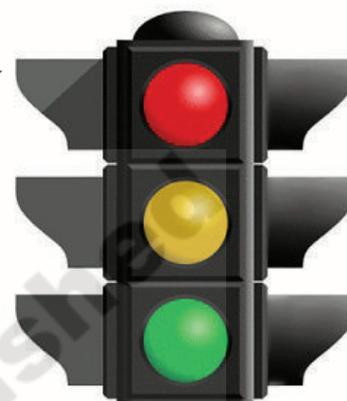
Traffic Signals

A traffic Light , traffic signal or a stop light is a signatory device position at a road intersection to indicate when it is safe to drive through. Follow traffic signals at the junction i.e.

Red- stop before line;

Orange- get ready to go;

Green- move the vehicle.



Road Safety

India has the second largest road network in the world. As the road uses are not aware of the traffic rules leading to high toll of the death victims

Hurdle of road safety

1. Negligence of civilians
2. Pathetic conditions of roads
3. Unsafe vehicle design
4. Under implementation of road safety standards
5. Lack of proper enforcement of laws
6. Lack of emergency services.

Slogans

- ▲ Live and let live, follow traffic rules
- ▲ Ensure safety on road, follow traffic fules

Rules for pedestrians

1. Walk on the foot path. If foot path is not available and the road is narrow, walk on the right side of the road watching the oncoming traffic.
2. Must use reflective clothing at night when walking outside built up area.
3. Always carry a torch while walking at night time.
4. Do look for safe place to cross and look left and right listen for traffic.
5. Let any traffic coming in either direction.
6. Walk briskly straight across the road when it is clear and continue watch and listen for walking.
7. Use zebra Lines for crossing roads.
8. Don't use the mobile in any form while walking/ crossing i.e. either listening to songs.
9. Take the help of traffic police men while crossing the road.
10. Pedestrains do not walk on roads in inebriated condition.

Rules for Motor Cycles

- Must hold current driving license.
- Must have insurance cover before you can take your motor cycle or moped on a public road.
- Riders should wear properly fitted and secured helmet.
- Carry only pillion passenger, who must sit on a proper seat.



Fig. 24.2 : Dangerous to drive with overload

Key words

1. Vehicle registration
2. Breath analyser
3. Mandatory signs
4. Traffic Education
5. Driving licence

Improve your learning

1. What documents should a driver carry while driving and what skills are needed to drive safely?
2. What will happen if someone jumps the traffic signal?
3. Suggest a few steps to be taken by different sections of society for road safety.
4. Explain mandatory, caution and information traffic signs with examples?
5. Kamala wants to purchase a new vehicle. Explain her what are the steps to be taken and what documents are to be produced for the registration of a vehicle?
6. Ramu wants to interchange his vehicle number to other vehicle. Is it correct or not? Explain, why?
7. Explain the need of road safety

Project

1. Collect the data from the traffic police/ RTA officials who are nearest to you .

Month :

Place :

No. of cases booked :

Driving without Helmet	Driving without License	Not having registration papers	Not following traffic rules	No. of accident accused vehicles

Analyse the data and discuss in your class room regarding traffic situations in your area.